

**SUPER HIGH RESOLUTION**

**600TVL**

# **OWNER'S MANUAL**

- Diagonal 6mm (1/3") Sony IT CCD
- Ultra High Resolution (600TVL)
- Selectable, Day & Night
- 3-Axis, Easy Install [Option]



COLOR CCD



DSP DIGITAL



**CCD**

**DIGITAL COLOR**

## USER INFORMATION



### CAUTION

RISK OF ELECTRIC SHOCK  
DO NOT OPEN



**CAUTION ! TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).  
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance-(servicing) instructions in the literature accompanying the appliance.

**THE GRAPHIC SYMBOLS WITH SUPPLEMENTAL MARKING ARE ON THE BOTTOM OF THE SYSTEM.  
"WARNING-TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE."**

## ● USER INFORMATION

### **INFORMATION**

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.

### **WARNING**

The manufacturer could void the user's authority to operate the equipment.

### **CAUTION**

To prevent electric shock and risk of fire hazards:

- Do not use power sources except for that specified.
- Do not expose this appliance to rain or moisture.

**This installation should be made by a qualified service person and should abide to all local codes.**

## ● CONTENTS

**Thank you for purchasing this COLOR VIDEO CAMERA.**

Before using this camera, please read this operation manual carefully to obtain the best result and keep this manual for future reference.

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## ○ 1. SAFETY INSTRUCTIONS

### **Read Instructions**

Read all of the safety and operating instructions before using the product.

### **Retain Instructions**

Save this instructions for later use.

### **Cleaning**

Unplug this appliance from wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

### **Water and Moisture**

Do not use this product near water or moisture. ( For example. near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near swimming pool, etc.)

### **Installation**

Do not place this product on an unstable cart, stand, or table. The product may fall causing serious injury to a child or adult, and damage to the product.

Use only with a cart or stand recommended by the manufacturer, or sold with the product. Mounting should follow the manufacturer's instructions, and should use a mounting accessory recommended by manufacturer.

### **Power source**

This product should be operated only from the type of power source indicated on the marking label.

If you are not sure of the type of power supplied to your home, consult your dealer or local power company.



## 2. PRECAUTIONS

- **Do not install the camera in extreme temperature conditions.**  
Operate the camera under conditions where temperatures are within -10°C to 50°C.  
Especially be careful for ventilation under high temperature.
- **Do not install or use the camera in an environment where the humidity is high.**  
It can cause the image quality to be poor.
- **Do not install the camera under unstable lighting conditions.**  
Severe lighting change or flicker can cause the camera to work improperly.
- **Never use the camera close to a gas or oil leak.**  
It can cause malfunctions to occur.
- **Do not disassemble the camera.**  
There are no user repairable parts inside.
- **Do not drop the camera or subject them to physical shocks.**  
It can cause malfunctions to occur.
- **Never keep the camera face to strong light directly.**  
It can damage CCD.
- **Do not expose the camera to rain or spill liquid on it.**  
If it gets wet, wipe it with dry cloth immediately.  
Liquids can contain minerals that corrode the electronic components.





## ● 3. FEATURES

### **1. Diagonal 6mm (1/3") Sony IT CCD**

### **2. Min Illumination(F1.2)**

- 0.1 LUX (COLOR)
- 0.01 LUX (B/W)

### **3. High performance menus for functions**

- Ultra High Resolution (600TVL)
- SBLC (Super Back Light Compensation)
- DNR (Digital Noise Reduction)
- Privacy zone selectable.
- Motion detection selectable.
- MIRROR (HORIZONTAL)
- Flickerless On/Off.

### **4. Selectable, day & night**

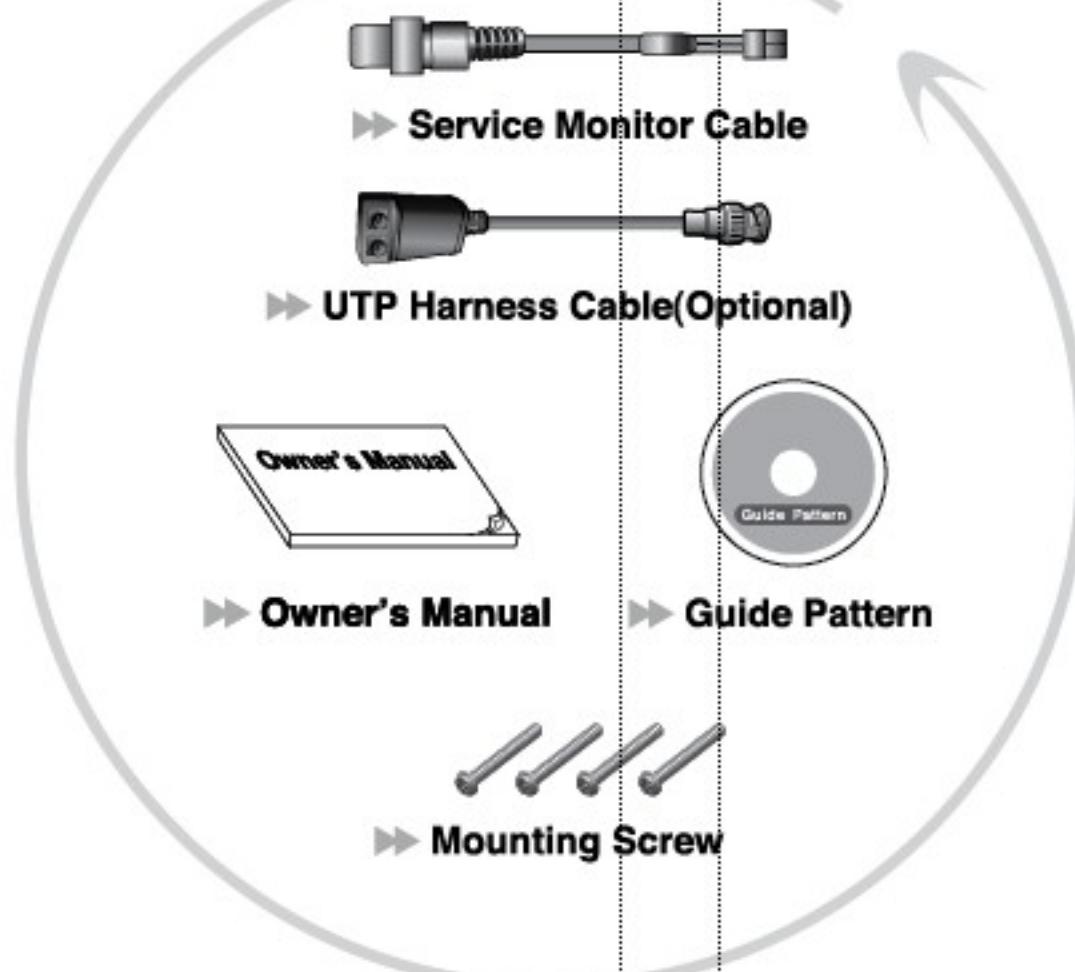
- ICR(OPTIONAL)

### **5. RS-485 Communciation Control Support (OPTIONAL)**

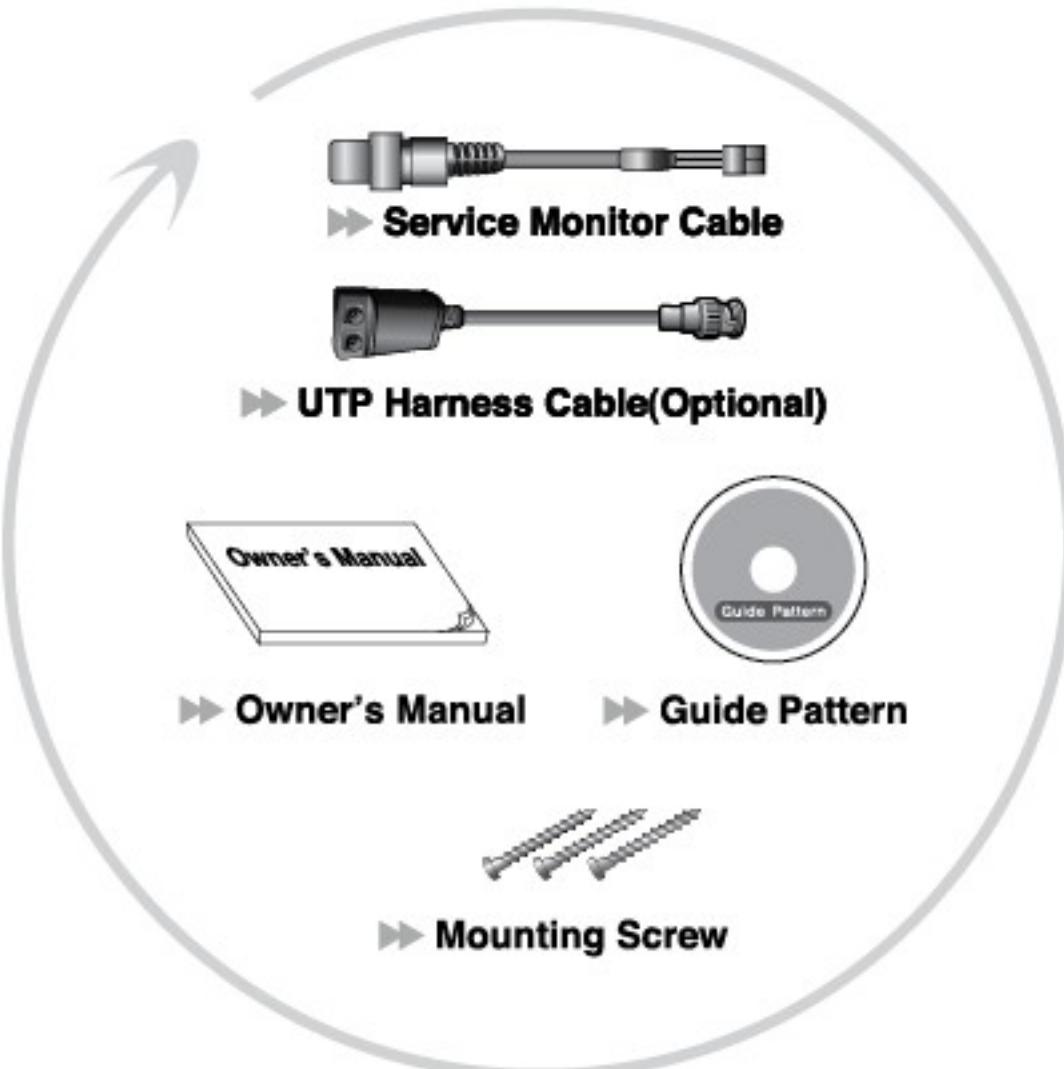
- Remote OSD menu control via an RS-485 interface is supported.

4. COMPOSITION

General Dome Camera [ A, B Type ]



General Dome Camera [ C Type ]





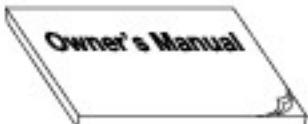
## Vandal proof Dome Camera



► Service Monitor Cable



► UTP Harness Cable(Optional)



► Owner's Manual



► Guide Pattern



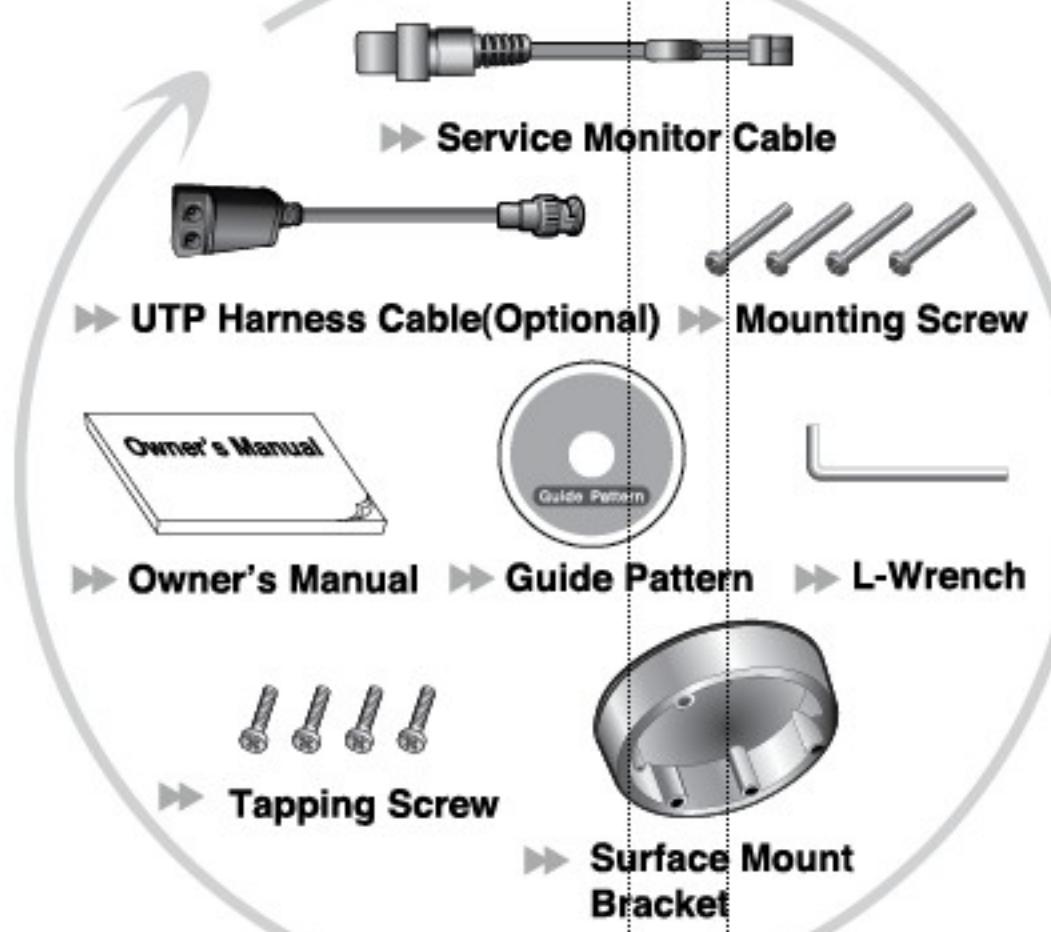
► L-Wrench



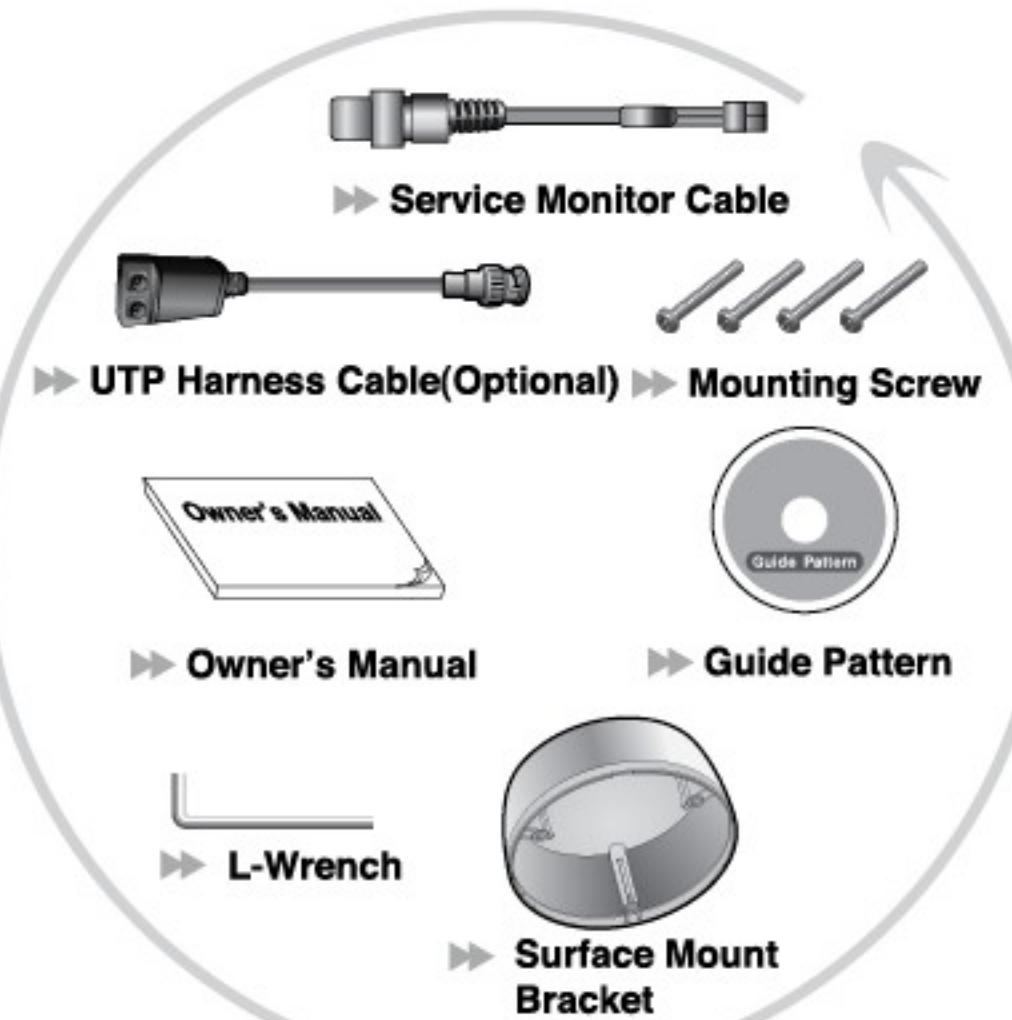
► Mounting Screw

## COLOR DOME CAMERA

### Flush Dome Camera [Flush type]



### Flush Dome Camera [Surface type]

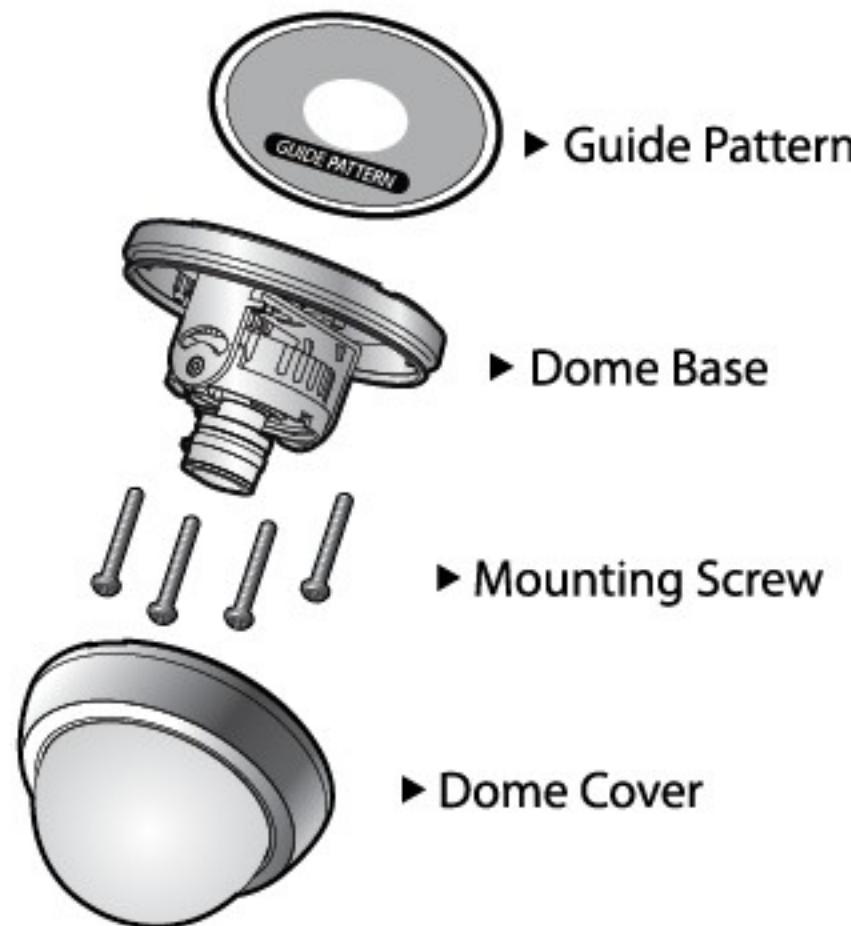


## ○ 5. INSTALLATION

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill four holes according to the guide pattern then insert anchors into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Attach the camera base to the ceiling or wall using the supplied four screws.
- 5 Adjust desired focus and scene by turning and moving the 3-axis camera bracket by hand.
- 6 Align dome cover over base and snap into place to lock.
- 7 Fix the dome cover on the base by covering.



## Ceiling



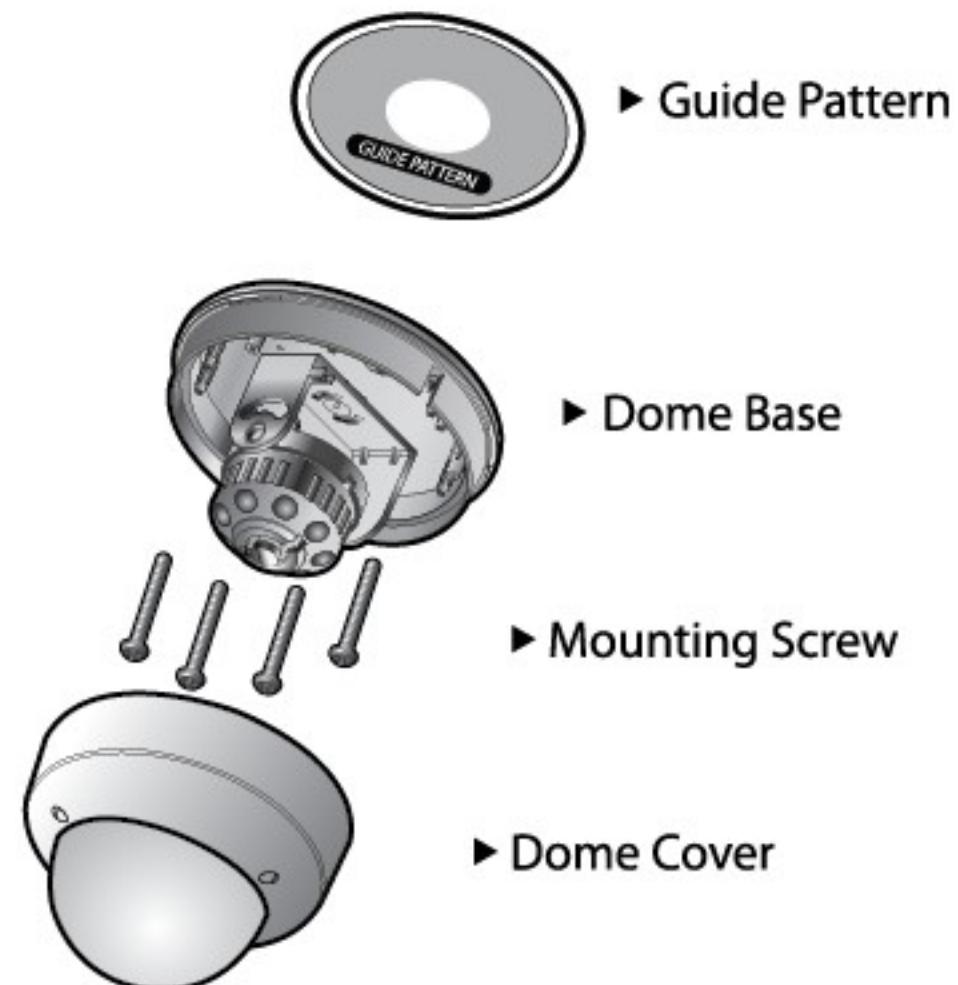
NOTE

Insert coin to the side hole and  
twist to remove dome cover

### General Dome Camera - [B] Type

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill four holes according to the guide pattern then insert anchors into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Attach the camera base to the ceiling or wall using the supplied four screws.
- 5 Adjust desired focus and scene by turning and moving the 3-axis camera bracket by hand.
- 6 Align dome cover over base and snap into place to lock.
- 7 Fix the dome cover on the base by covering.

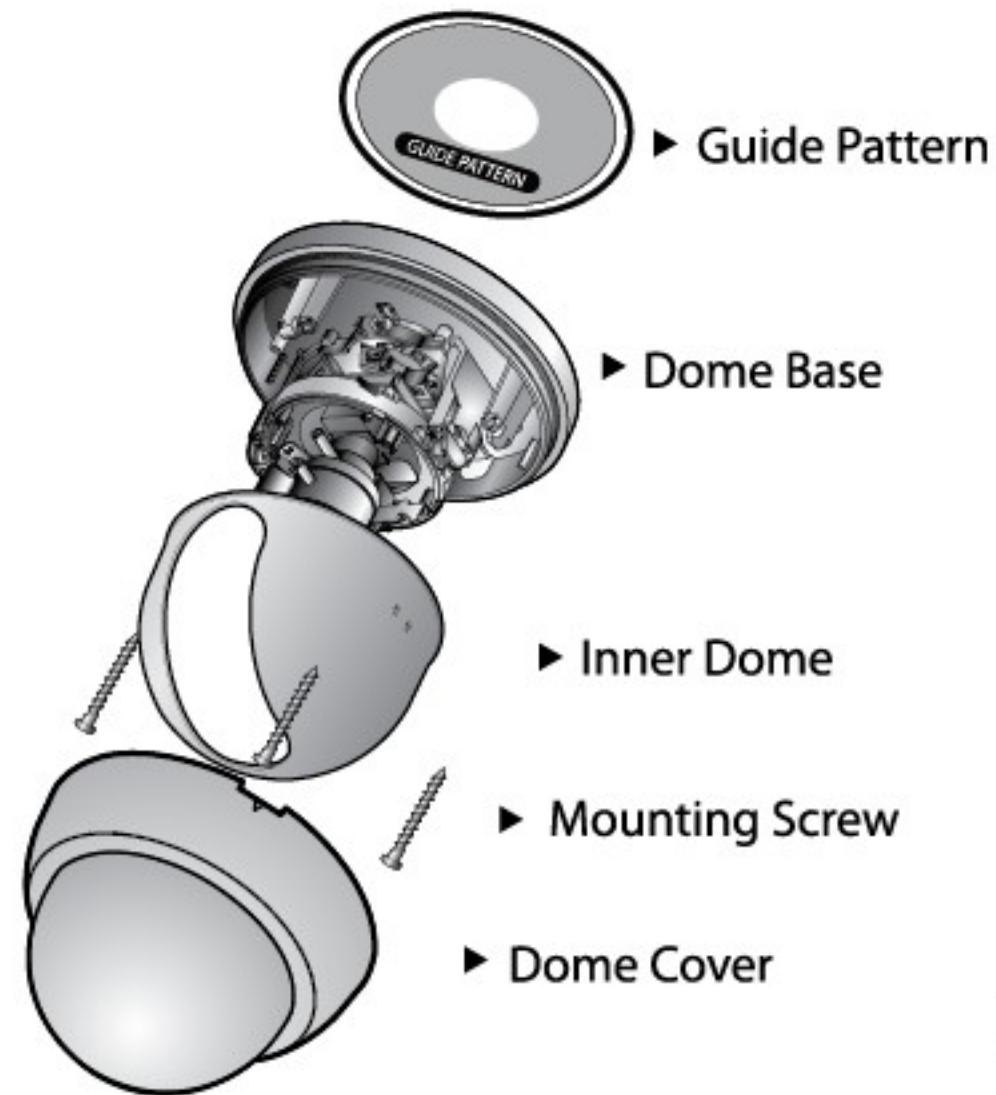
#### Ceiling



General Dome Camera -  
[C] Type

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill four holes according to the guide pattern then insert anchors into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Attach the camera base to the ceiling or wall using the supplied three screws.
- 5 Cover the camera bracket with inner dome after adjust desired focus and scene by turning and moving 3-axis by hand
- 6 Adjust desired focus and scene by turning and moving the 3-axis camera bracket by hand.
- 7 Align dome cover over base and snap into place to lock.
- 8 Fix the dome cover on the base by covering.

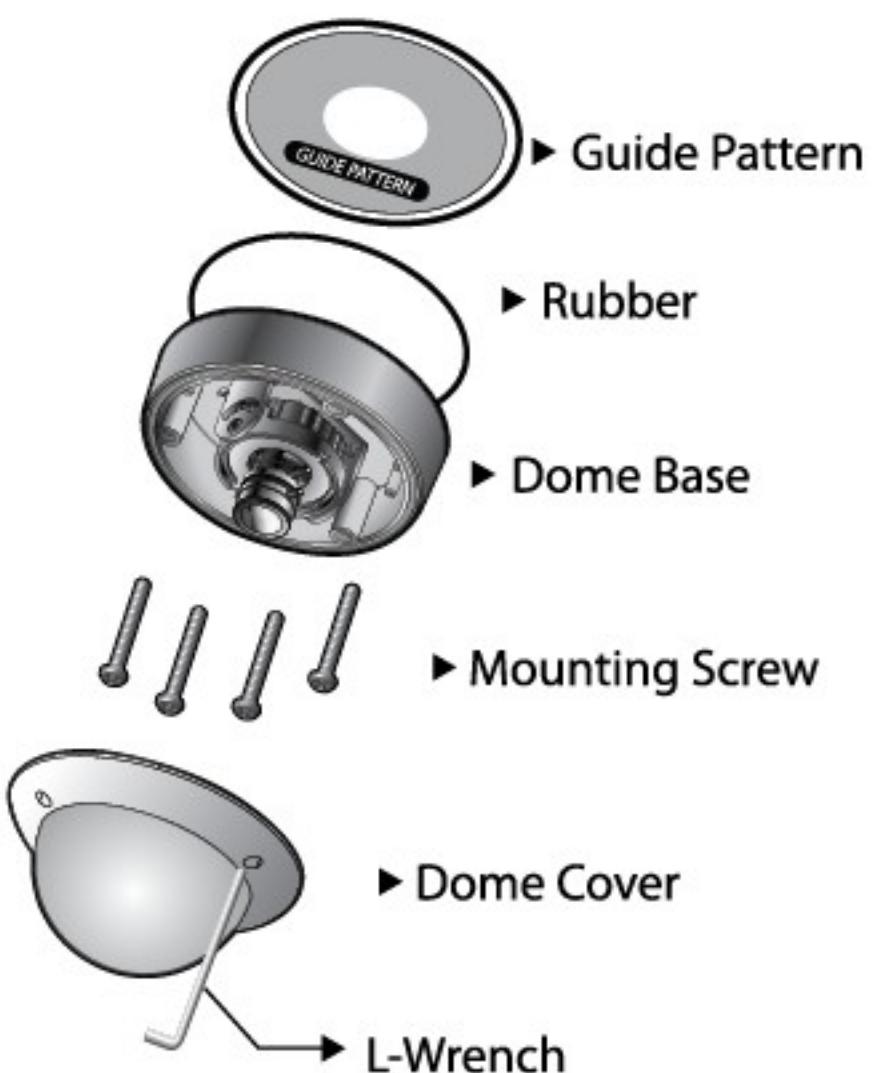
## Ceiling



### → Vandal Proof Dome Camera

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill four holes according to the guide pattern then insert anchors into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Attach the camera base to the ceiling or wall using the supplied four screws.
- 5 Adjust desired focus and scene by turning and moving the 3-axis camera bracket by hand.
- 6 Put the dome cover over the base.
- 7 Fix the dome cover on the base by L-Wrench.

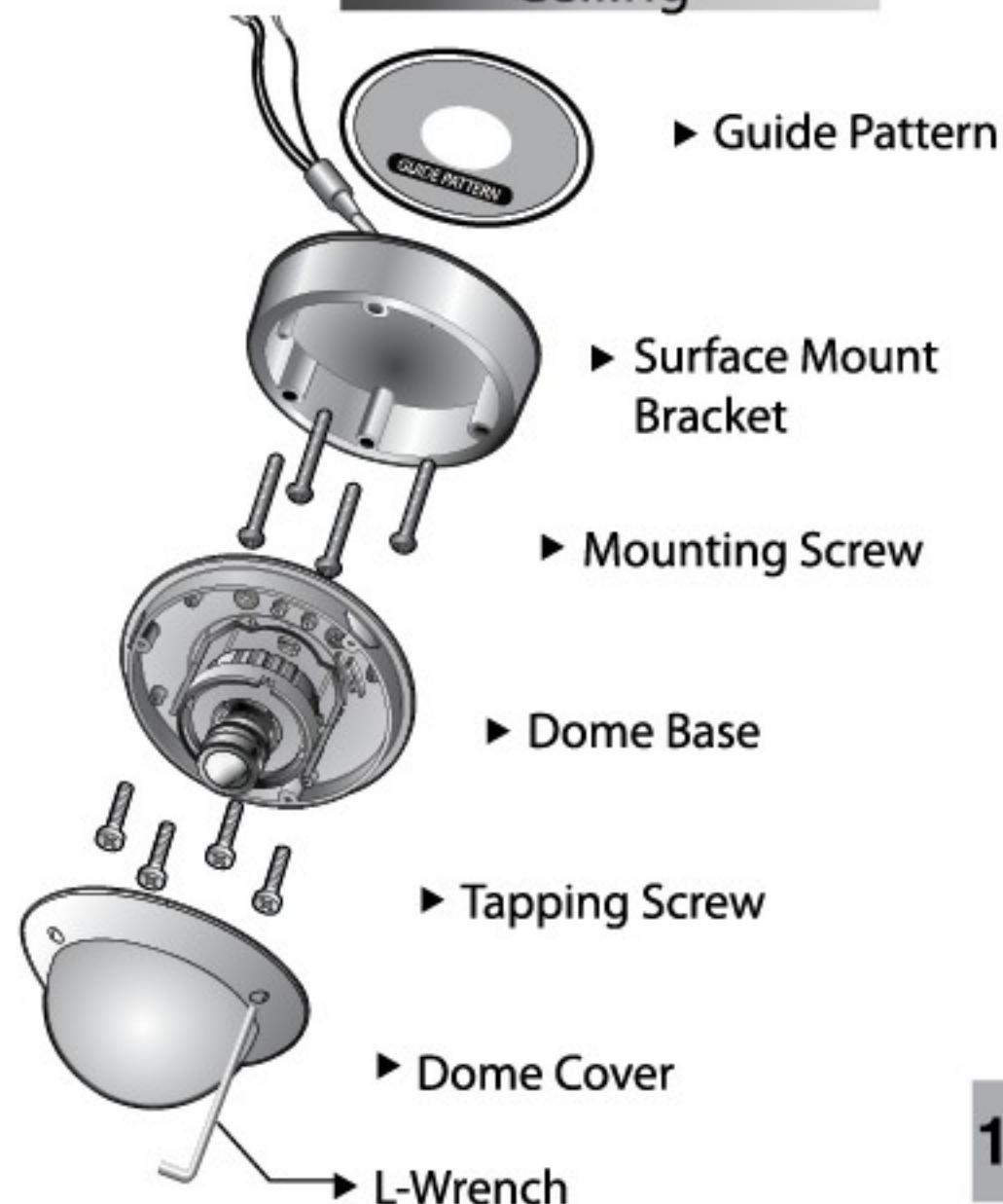
### Ceiling



Flush Vandal Proof  
Dome Camera

## Ceiling

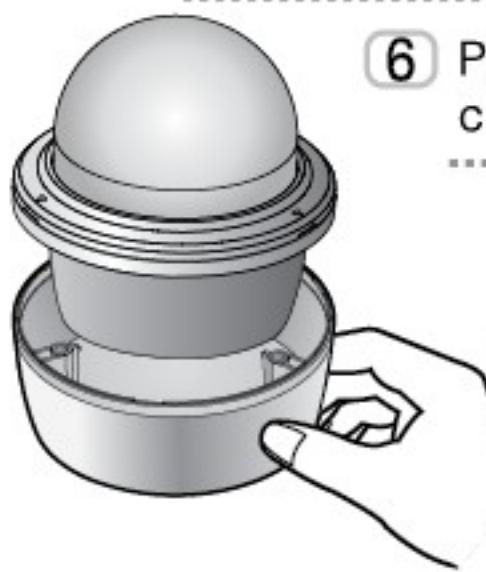
- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill four holes according to the guide pattern then insert anchors into the drilled holes.
- 3 Fix the surface mount bracket by screws on the ceiling.
- 4 Draw out power / video wires to the connecting places.
- 5 Connect the dome base to the surface mount bracket by screws.
- 6 Adjust desired focus and scene by turning and moving the 3-axis camera bracket by hand.
- 7 Put the dome cover over the base.
- 8 Fix the dome cover on the base by L-Wrench.



## COLOR DOME CAMERA

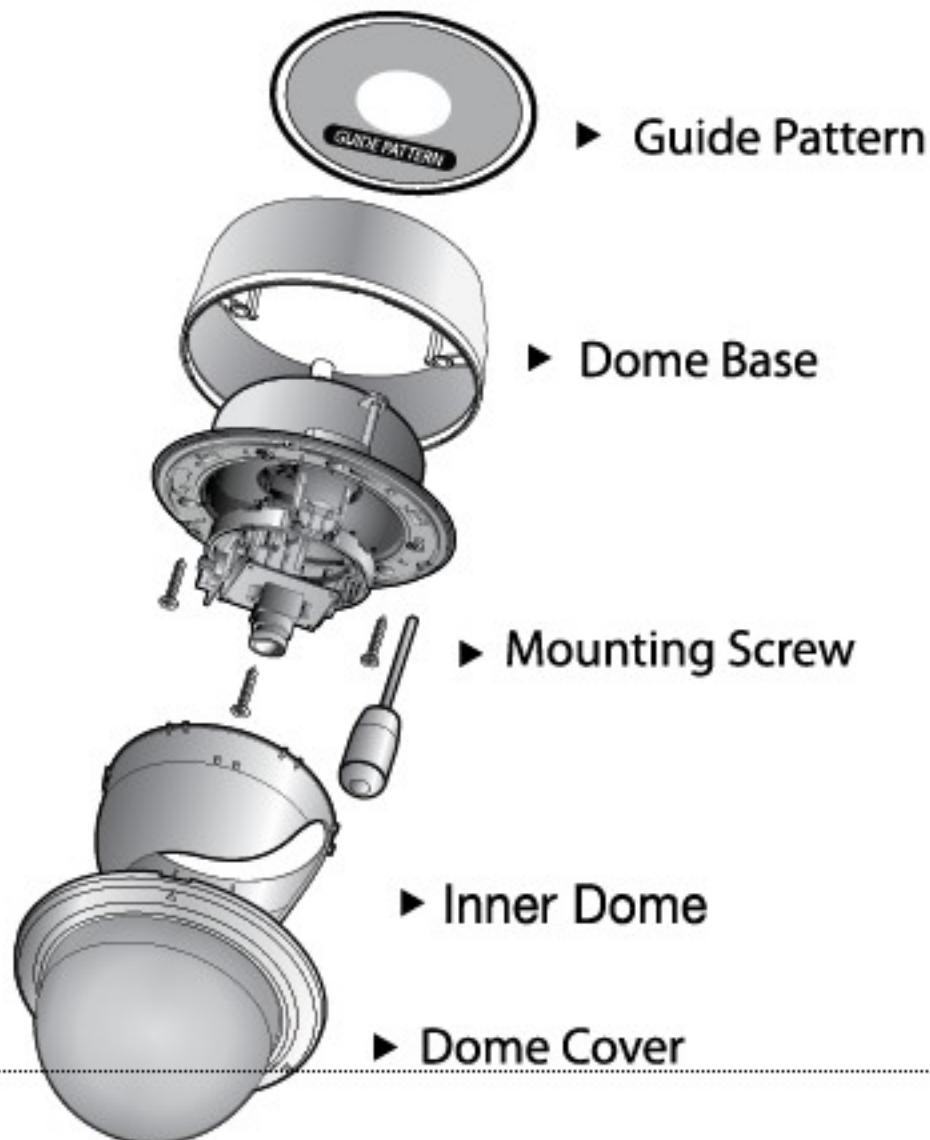
### Flush Dome Camera [Flush Type]

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill hole according to the guide pattern and remove Surface Mount Bracket then insert dome camera base into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Tighten three screws until it dose not turn to fix the camera on the ceiling
- 5 Cover the camera bracket with inner dome after adjust desired focus and scene by turning and moving 3-axis by hand
- 6 Put the dome cover over the base until it clicks.



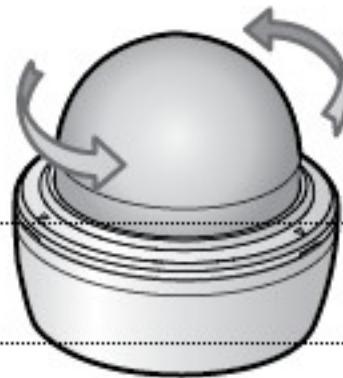
Push both side of the Surface Mount Bracket by hand to release.

### Ceiling



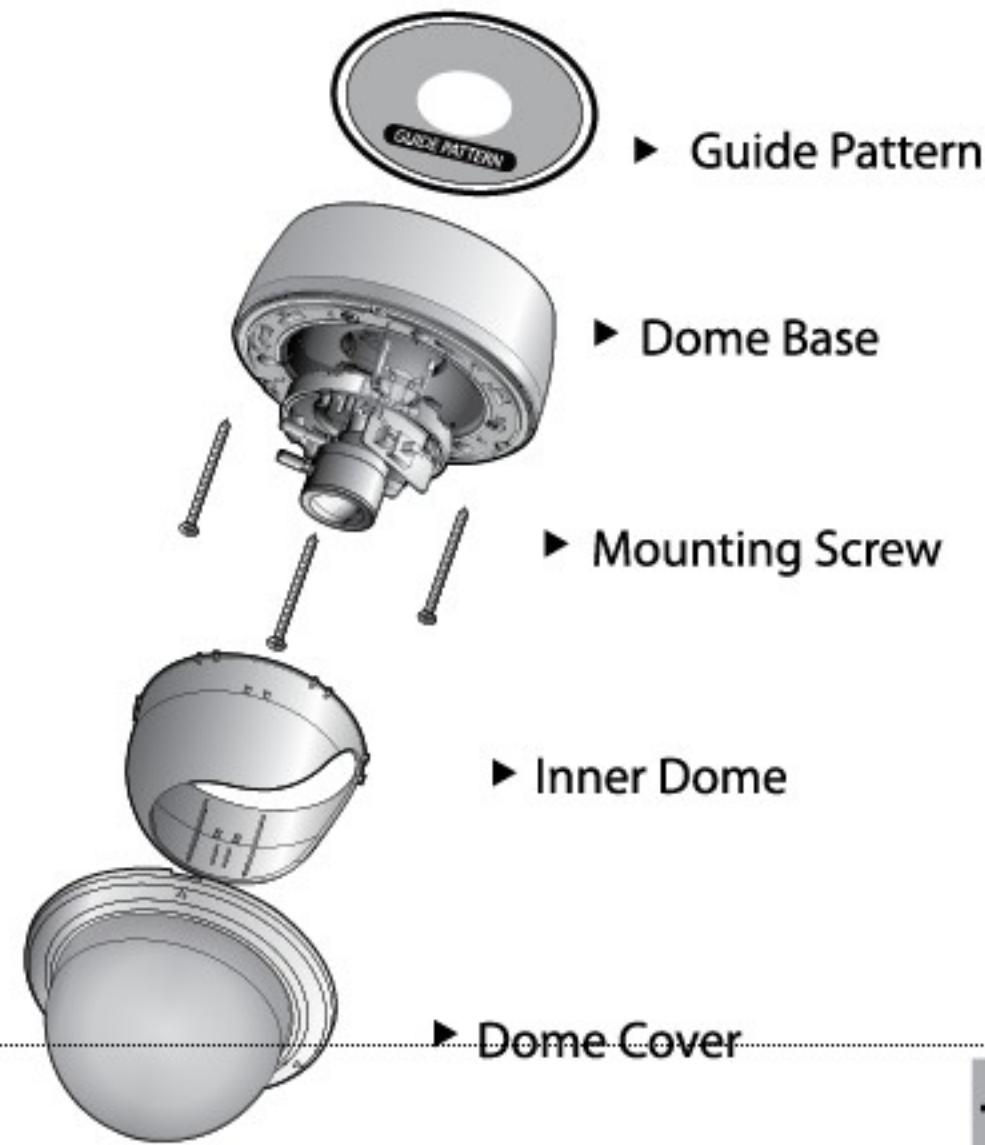
Flush Dome Camera  
[Surface Type]

- 1 Stick the guide pattern on the wall or ceiling.
- 2 Drill three hole according to the guide pattern then insert anchors into the drilled holes.
- 3 Draw out power / video wires to the connecting places.
- 4 Fixed the camera to a ceiling using three mounting screws.
- 5 Cover the camera bracket with inner dome after adjust desired focus and scene by turning and moving 3-axis by hand
- 6 Put the dome cover over the base until it clicks.



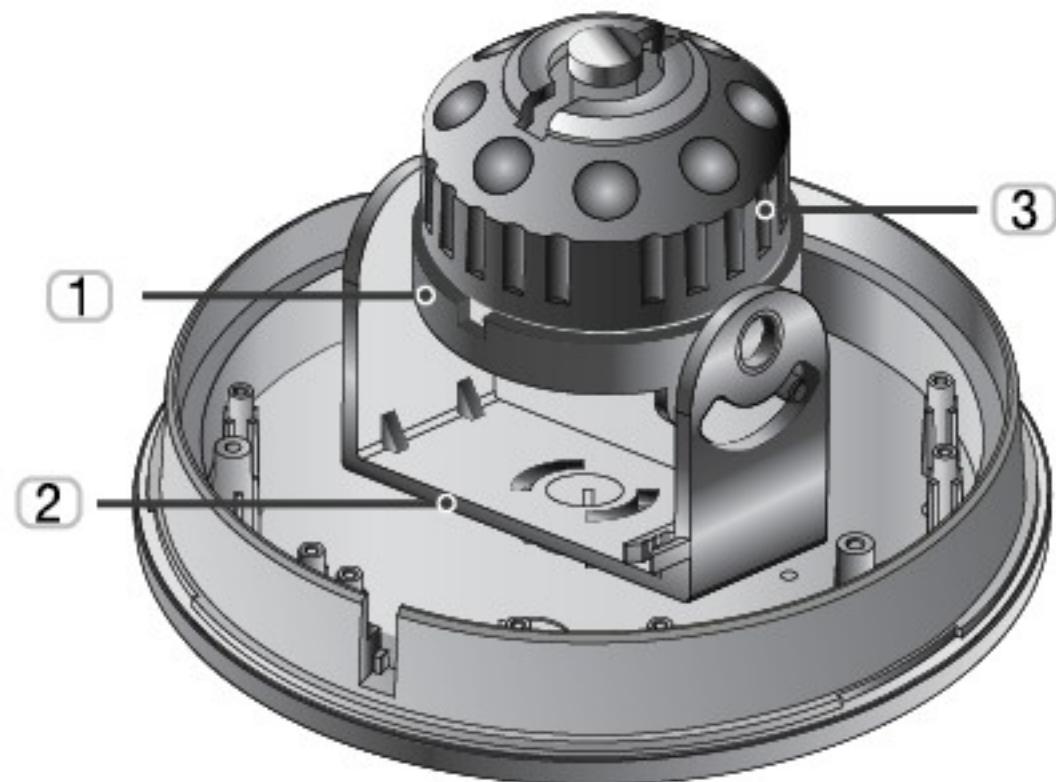
! Turn the dome cover counter clock wise to remove from the main body.

## Ceiling



Fixed Lens Type

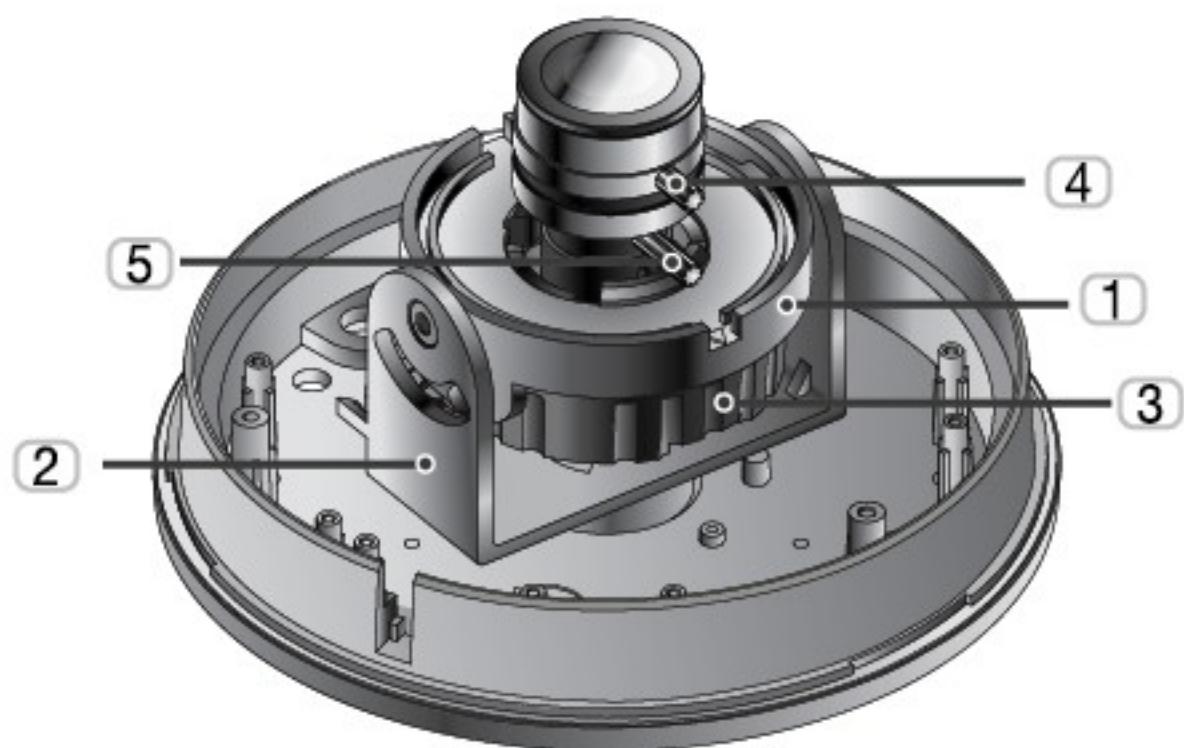
6. NAME AND FUNCTIONS



Camera Lay-out

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 Pan rotation : Adjusting the horizontal angle.
- 3 Horizontal rotation : Adjusting the horizontal position of the screen.

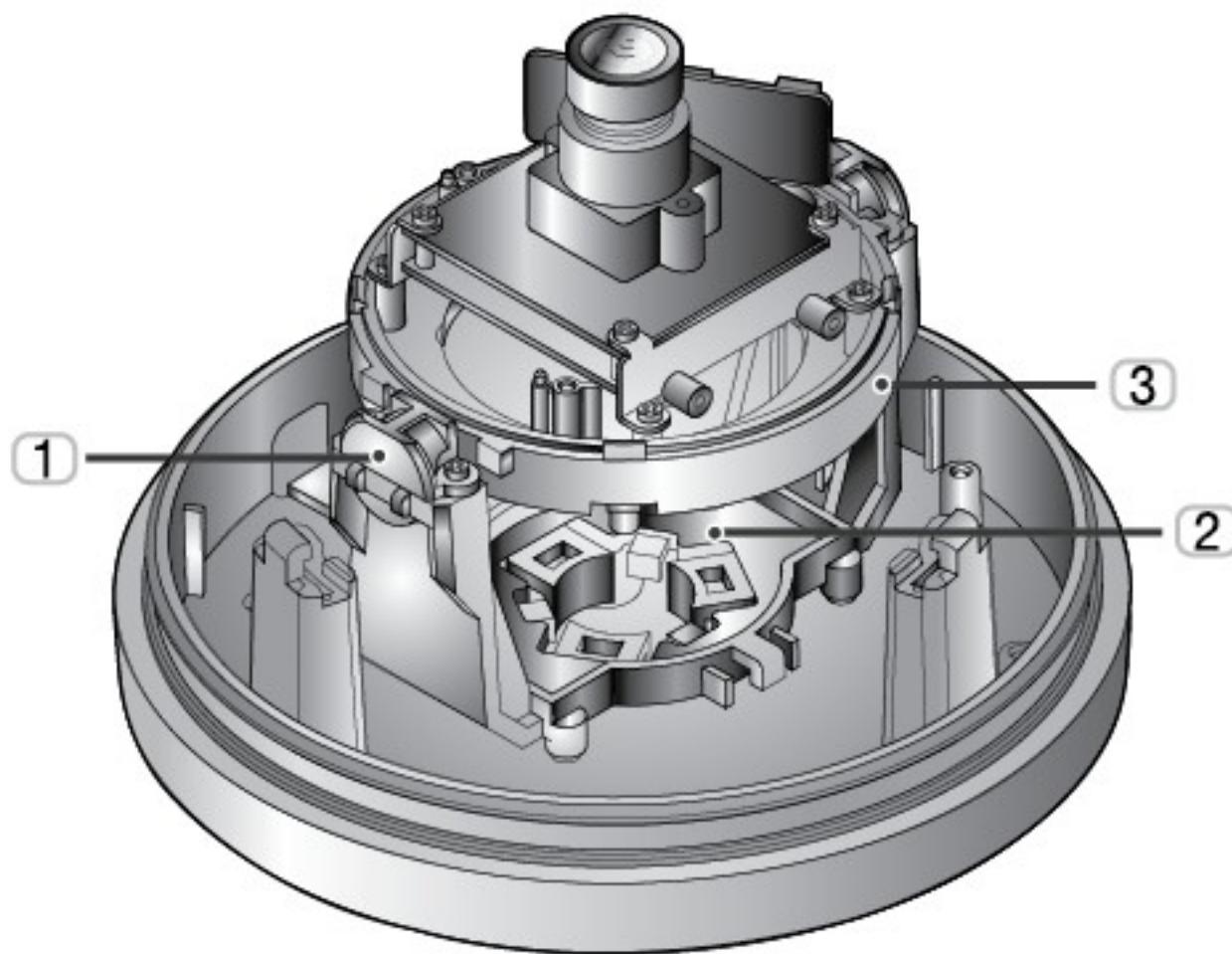
## Vari-focal Lens Type



### Camera Lay-out

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 Pan rotation : Adjusting the horizontal angle.
- 3 Horizontal rotation : Adjusting the horizontal position of the screen.
- 4 Focus handle : Focus (Far or Near)
- 5 Zoom handle : Zoom (Tele or Wide)

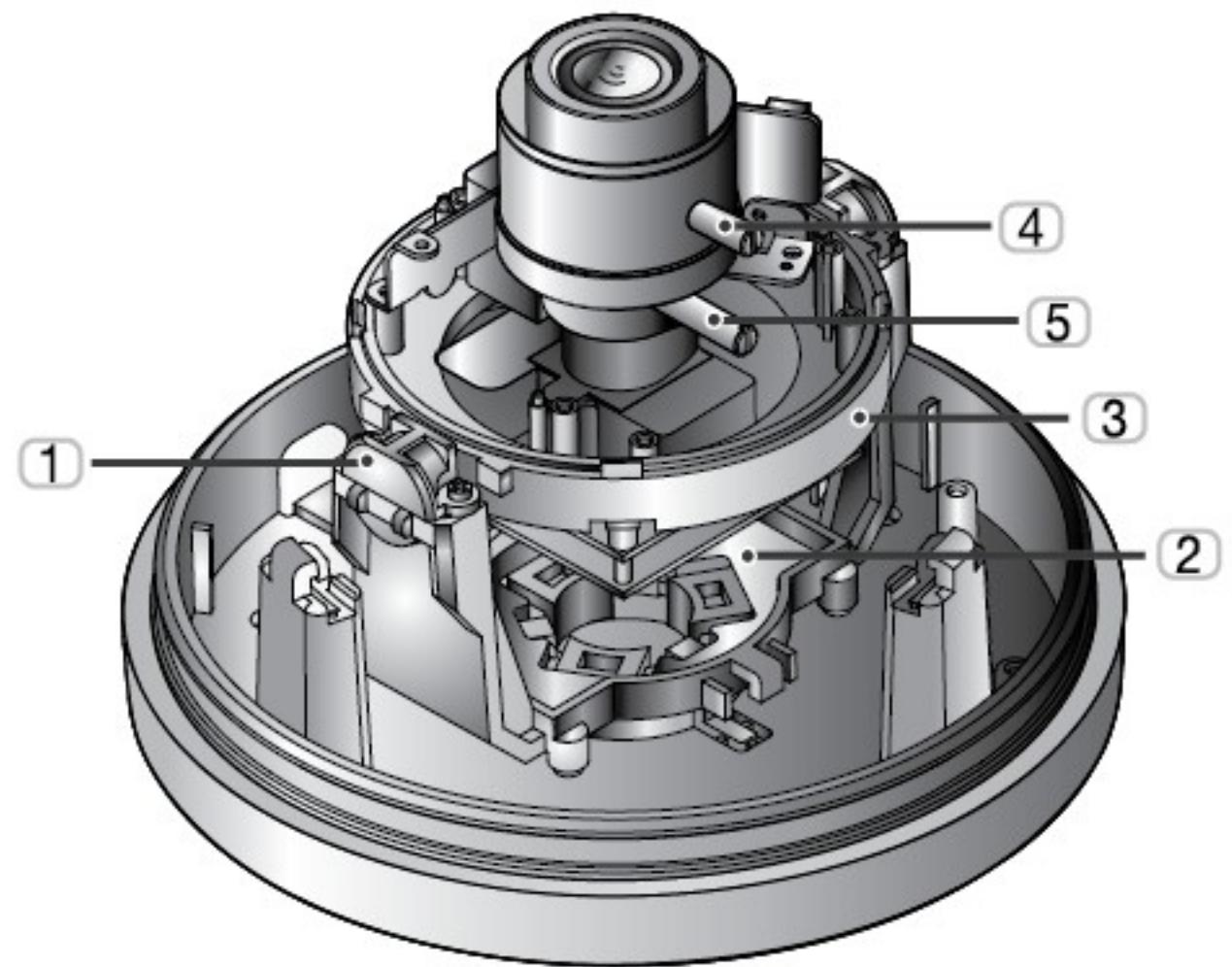
Fixed Lens Type



Camera Lay-out

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 Pan rotation : Adjusting the horizontal angle.
- 3 Horizontal rotation : Adjusting the horizontal position of the screen.

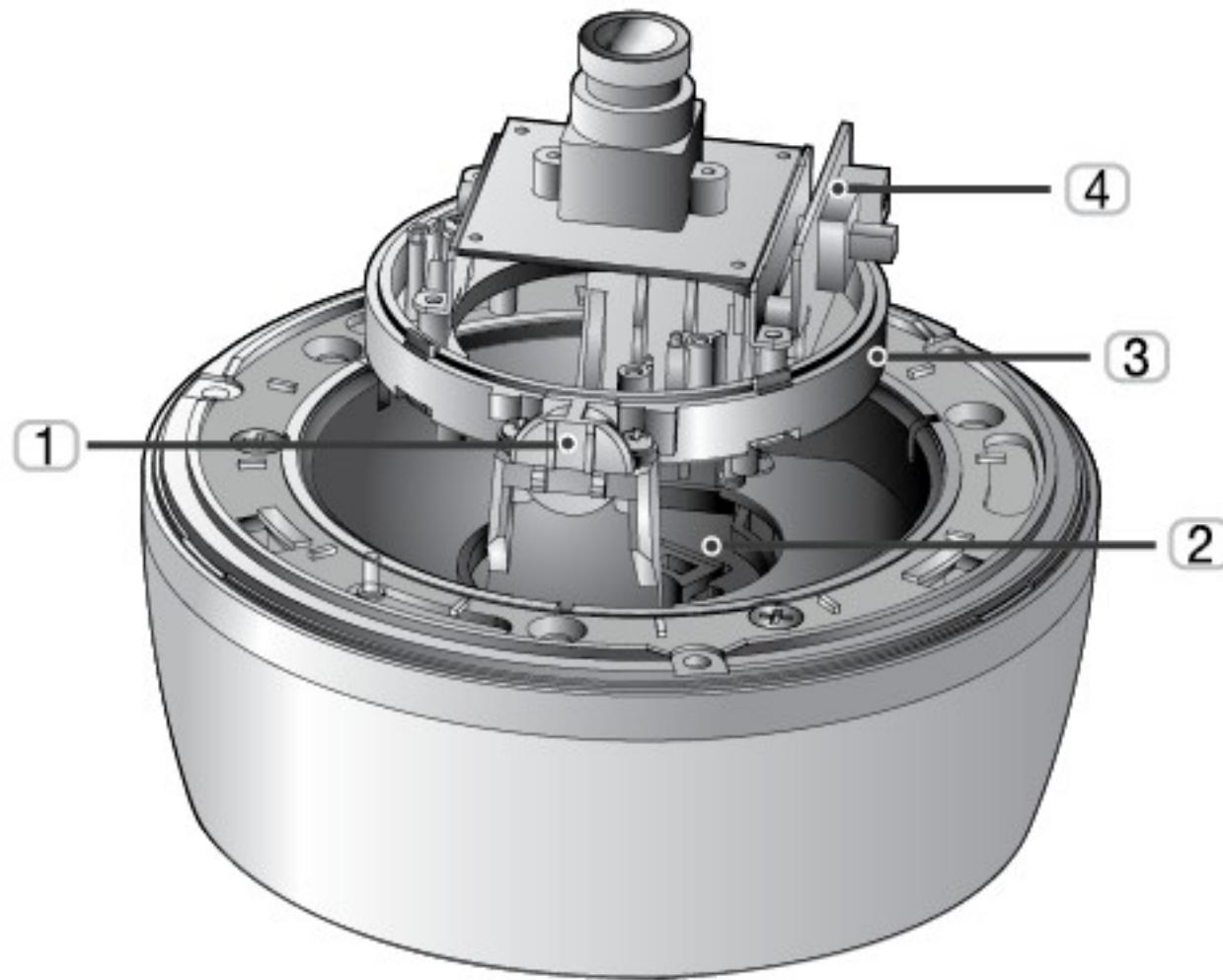
## Vari-focal Lens Type



## Camera Lay-out

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 Pan rotation : Adjusting the horizontal angle.
- 3 Horizontal rotation : Adjusting the horizontal position of the screen.
- 4 Focus handle : Focus (Far or Near)
- 5 Zoom handle : Zoom (Tele or Wide)

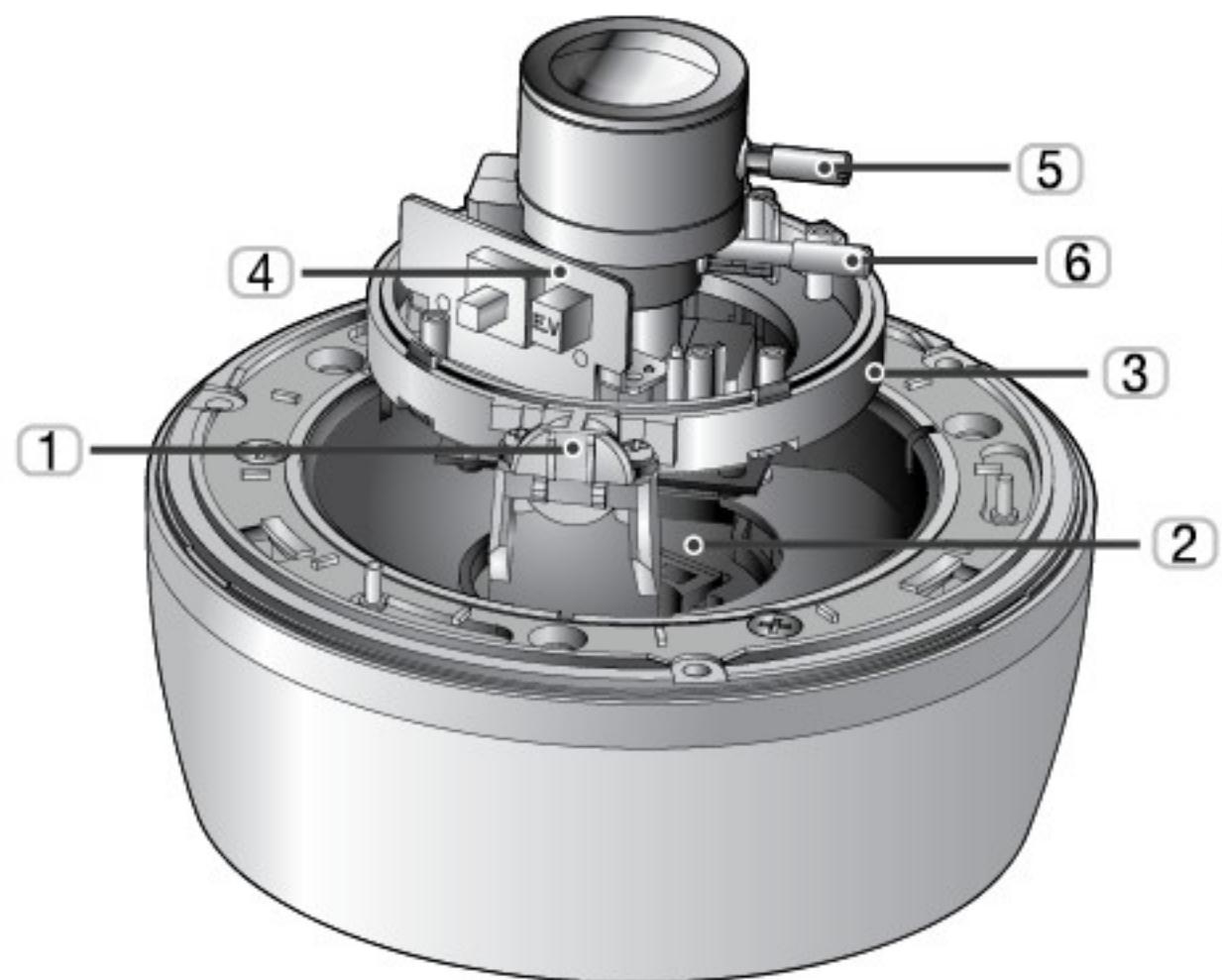
Fixed Lens Type  
[Flush Dome Camera]



► Camera Lay-out

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 3 Pan rotation : Adjusting the horizontal angle.
- 4 Horizontal rotation : Adjusting the horizontal position of the screen.

**Vari-focal Lens Type**  
**[Flush Dome Camera]**



**Camera Lay-out**

- 1 Tilt rotation : Adjusting the vertical angle.
- 2 3 Pan rotation : Adjusting the horizontal angle.
- 4 Horizontal rotation : Adjusting the horizontal position of the screen.
- 5 Focus handle : Focus (Far or Near)
- 6 Zoom handle : Zoom (Tele or Wide)

## ⑦ 7. CONNECTIONS

## 1. Connecting to Monitor and Power

## ● For 24V AC / 12V DC Power Type

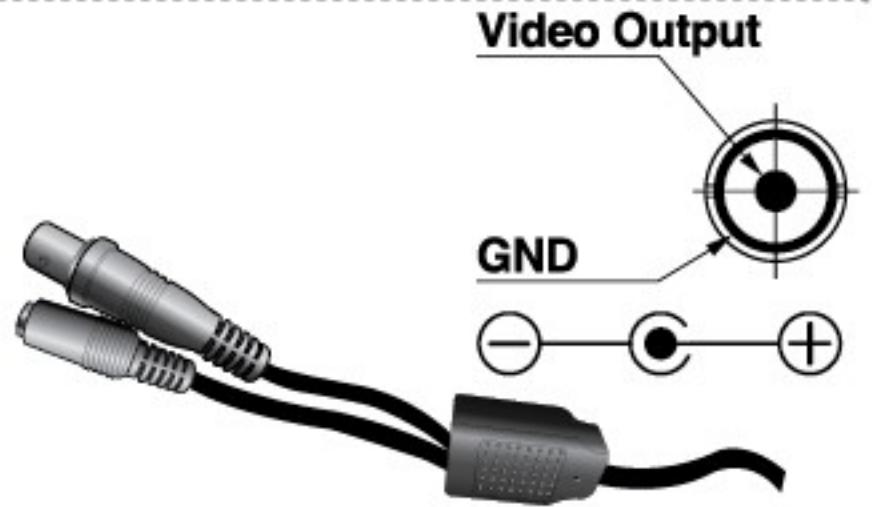
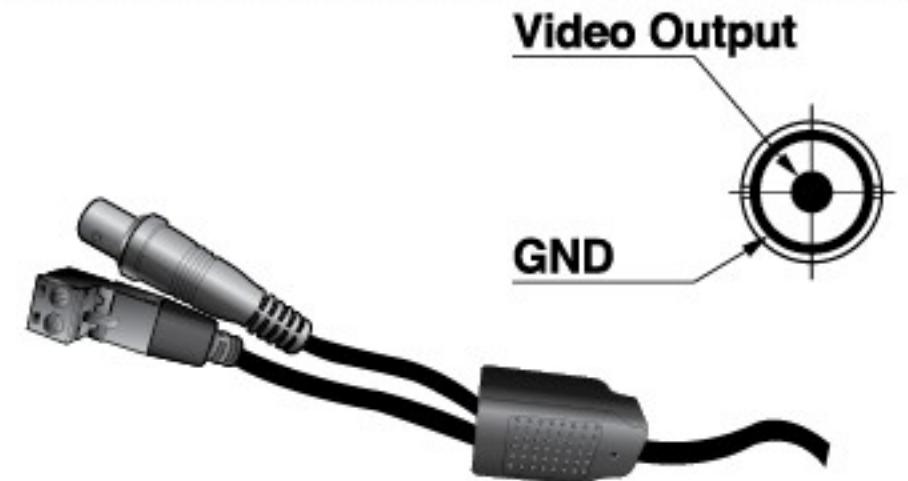
- The wire is non-polarized.
- Use 24V AC  $\sim$  power source or 12V DC  $\equiv$  power source.
- Use the power rated at least 3.6W / 24VAC and 0.3A (12VDC)

NO	Function	Terminal Color	Remark
#1	Video Output	Yellow	1.0 Vp.p
#2	Power Input	Green	24V AC(20V~28V)or 12V DC(11V~15V), Max 3.6W / 0.3A

## ● For 12V DC Power Type

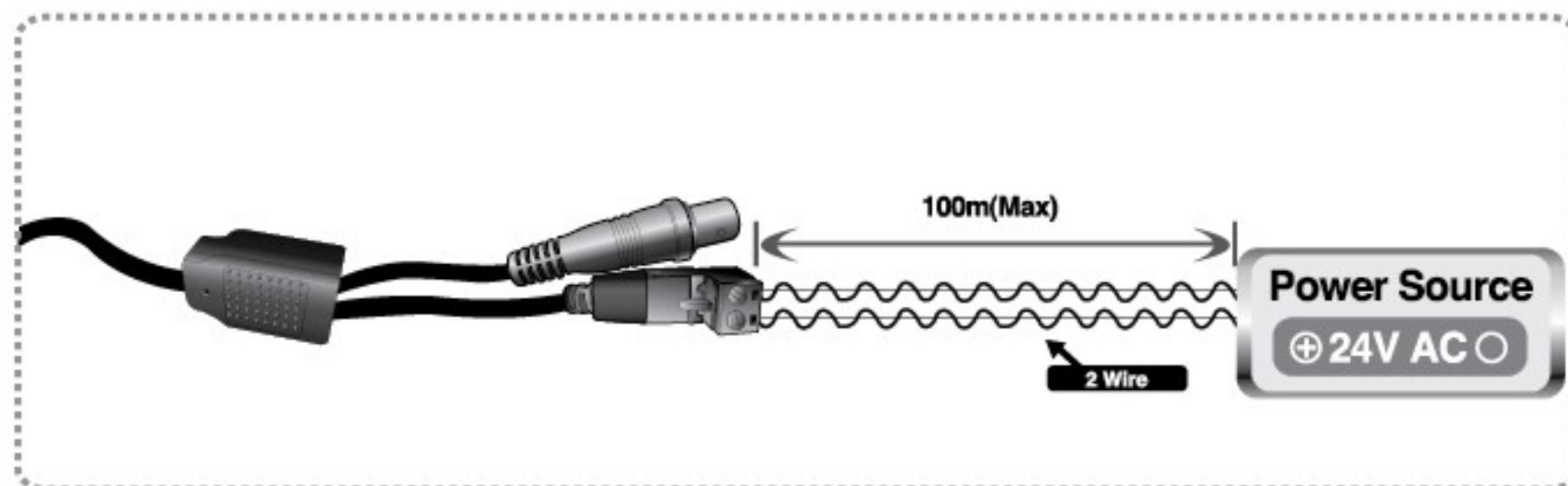
- Connect the video-out jack to the video-in jack of monitor.
- Connect the power adapter to the power input connector.
- Use 12V DC  $\equiv$  power source.
- Use the power rated at least 180mA (12VDC)

NO	Function	Terminal Color	Remark
#1	Video Output	Yellow	1.0 Vp.p
#2	Power Input	Red	12V DC(10V~15V), Max 2.2W /180mA



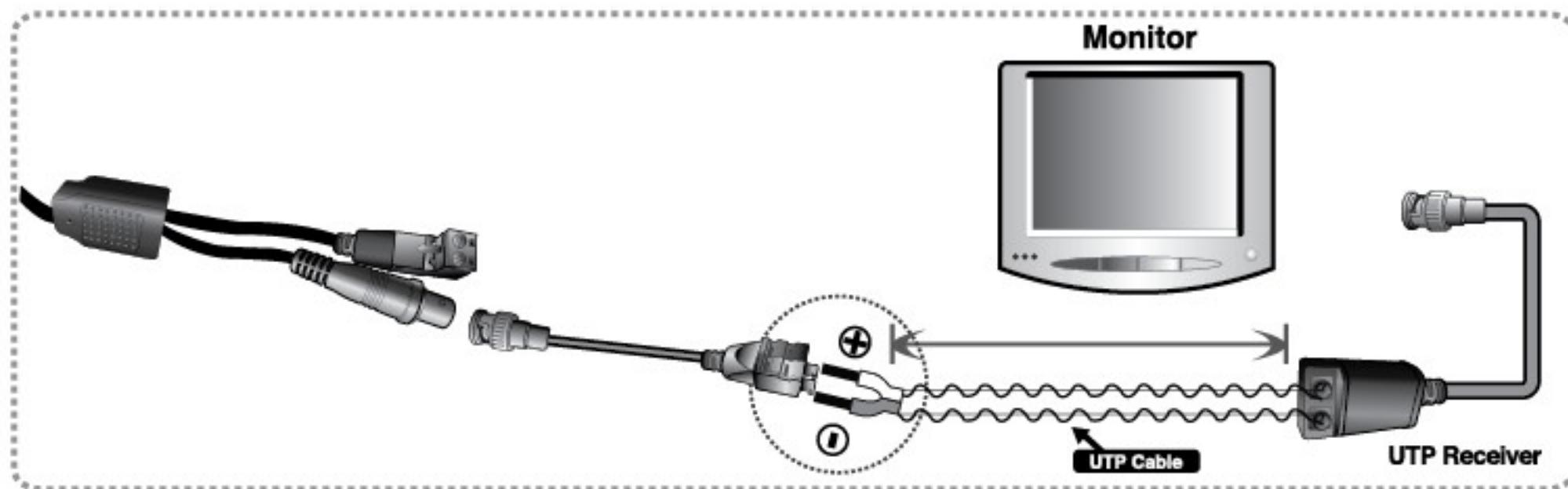
## 2. UTP (Unshielded Twisted Pair)

- For 24V AC Power Type [UTP Video Output]



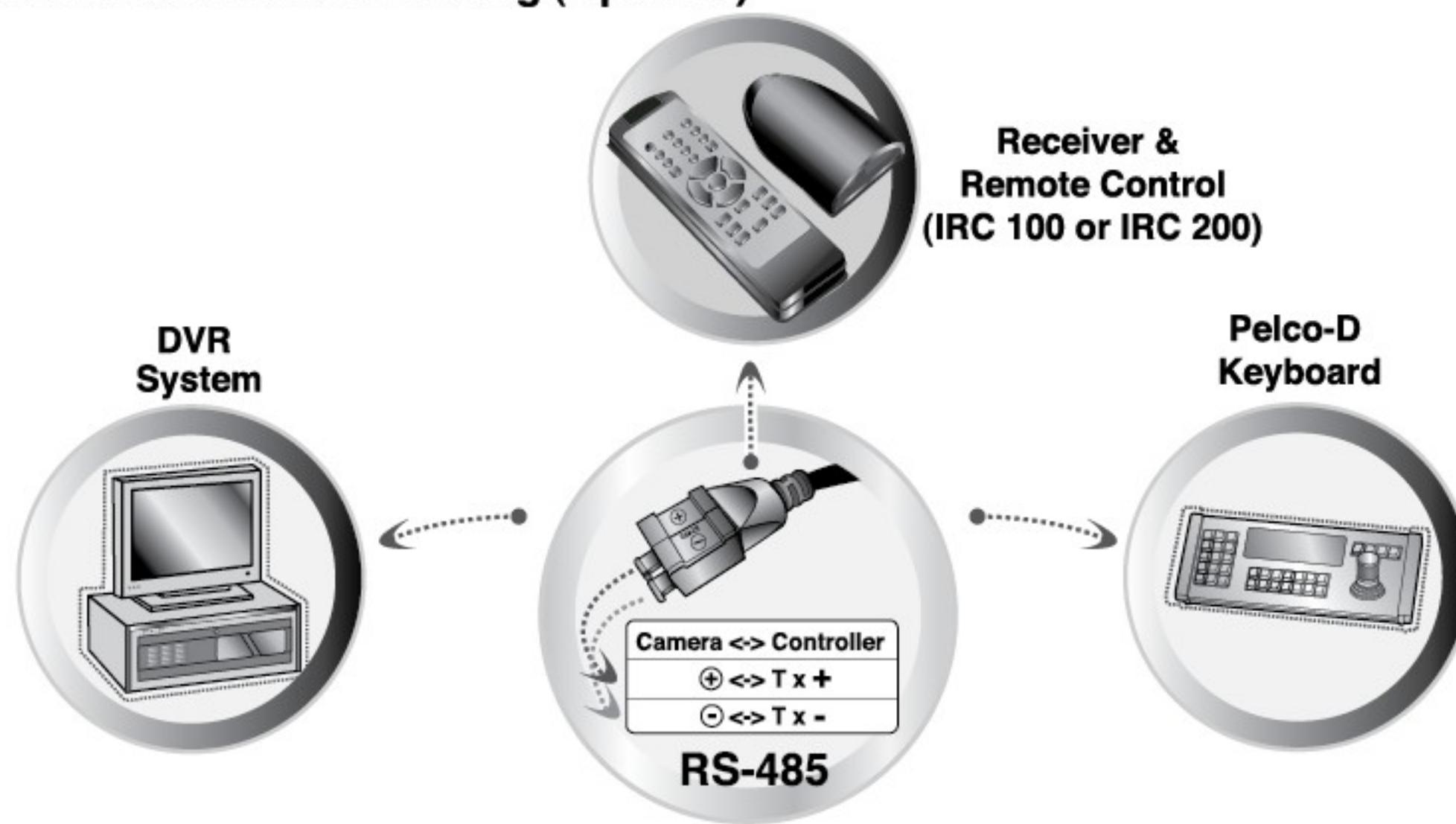
- When using 24V AC power, it is possible to supply the power within 100m.
- Use 4 wires by 2 pair of wires.
- When using 12V DC power, UTP should not be used as the power.

### ● Connecting to Monitor



- Connect UTP(Unshielded Twisted Pair) wire to the UTP output of the camera directly.  
UTP transmitter is included in the camera therefore additional UTP transmitter is not necessary.
- UTP receiver is necessary to connect UTP wire to Monitor or DVR
- When connecting UTP wire, make sure the polarity of the video signal is correct.
- Use UTP wire "CAT5 24AWG" to have the best transmission quality.
- The twisted-pair output cannot be used at the same time as the Composite Video output

### 3. Camera remote control connecting (Optional)



## 8. COMMUNICATION PROTOCOL

## PELCO "D" Byte Format

Function	KEY UP						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
MSG	0xFF	ID	0x00	0x20	0x00	0x00	CS
Function	KEY DOWN						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
MSG	0xFF	ID	0x00	0x40	0x00	0x00	CS
Function	KEY LEFT						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
MSG	0xFF	ID	0x01	0x00	0x00	0x00	CS
Function	KEY RIGHT						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
MSG	0xFF	ID	0x00	0x80	0x00	0x00	CS

Function	OSD MENU ON/OFF (Pelco)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
<b>M S G</b>	0xFF	ID	0x00	0x23	0x00	0x5F	CS
Function	OSD MENU ON/OFF (Bido Pelco System)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
<b>M S G</b>	0xFF	ID	0x00	0x03	0x00	0x62	CS
Function	OSD MENU ON/OFF (CNB DVR)						
	1 BYTE	2 BYTE	3 BYTE	4 BYTE	5 BYTE	6 BYTE	7 BYTE
<b>M S G</b>	0xFF	ID	0x40	0x00	0x00	0x00	CS

**ID = 01hex ~ FFhex : ID check mode**



**NOTE**

(Camera will check the camera ID. If the ID contained in command packet isn't identical to the current camera ID, the received command will be ignored and deleted.)

## 9. OPERATING CAMERA

<b>LENS</b>	ESC	BRIGHTNESS	0~20
		FLK	OFF, ON
	DC	DC LEVEL	0~20
		FLK	OFF, ON
	SHUTTER	1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/700, 1/1K, 1/1600, 1/2500 1/5K, 1/7K, 1/10K, 1/30K, 1/60K, 1/120K	
<b>WHITE BAL</b>	ATW		
	MANUAL	RED	0~160
		BLUE	0~160
<b>AGC</b>	PUSH		
	ON	LEVEL	0~20
	OFF		
<b>DAY / NIGHT</b>	COLOR		
	B/W	BURST	OFF, ON
	EXT		
	AUTO	DELAY TIME	1~15

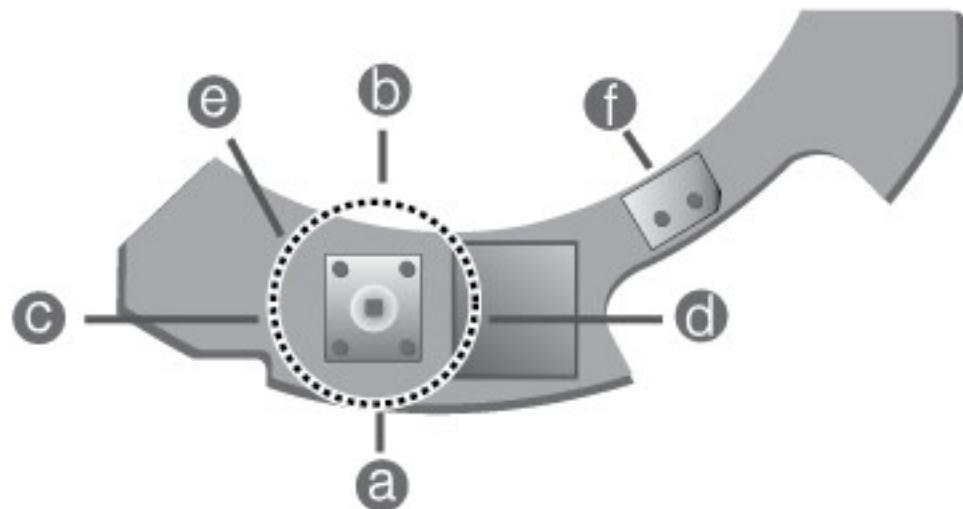
IMAGE ADJ	SBLC	OFF, LOW, MIDDLE, HIGH	
	DNR	OFF, LOW, MIDDLE, HIGH	
	SHARPNESS	LEVEL	0~20
	MIRROR	OFF, ON	
	MOTION	AREA	1~4
		DISPLAY	OFF, ON
		SENSITIVITY	1~24
		TOP	8~126
		BOTTOM	8~126
		LEFT	4~191
		RIGHT	4~191
		INITIAL	OFF↔, ON
		RETURN	↔
		AREA	1~4
		DISPLAY	OFF, ON
	PRIVACY	COLOR	WHITE, YELLOW, GREEN, BLUE, RED, BLACK, GRAY
		TOP	4~63
		BOTTOM	5~64
		LEFT	18~205
		RIGHT	19~206
		INITIAL	OFF↔, ON
		RETURN	↔

## COLOR DOME CAMERA

<b>IMAGE ADJ</b>	COLOR GAIN	R-Y	0~20
		B-Y	0~20
	INITIAL		OFF ↲, ON
	RETURN		↶
<b>GENERAL</b>	CAM ID		0~255
	ID DISPLAY		OFF, ON
	CAM TITLE	OFF	
		ON	UP/ DN, LE/ RI
	LANGUAGE		ENG, CHN(PAL)
	SYNC		INT
	BAUDRATE		2400, 4800, 9600, 57600
	VERSION		
	INITIAL		OFF ↲, ON
	RETURN		↶
<b>INITIAL</b>			OFF ↲, ON
<b>RETURN</b>			↶



Use the joystick to navigate between 5 ways.



- ⓐ DOWN : Move down / ⓑ UP : Move up
- ⓒ LEFT : Move left
- ⓓ RIGHT : Move right
- ⓔ MENU(SET):  
Press the joystick in its straight position.
- ⓕ Service Monitor Connector :  
Use service monitor connector to set camera angle & focus when installing.  
(Image cannot be seen if monitor output and service video output is used simultaneously.)

## MAIN MENU - GENERAL

**Press MENU button to access the SETUP menu.**

Select each sub-menu by using the **◀, ▶, ▲, ▼** button.  
Press the MENU(SET) button to select.

MENU	
LENS	ESC ↺
WHITE BAL	ATW
AGC	ON ↺
DAY/NIGHT	AUTO ↺
IMAGE ADJ	↖
GENERAL	↖
INITIAL	ON ↺
EXIT	↖

If the OSD MENU is changed then INITIAL will be OFF ↺  
(EXCEPT : LENS, CAM ID, BAUDRATE)

## LENS

**Press the MENU button to access the SETUP menu.**

## LENS ESC

- Select LENS using the UP or DOWN button. You can change between ESC and DC using the LEFT or RIGHT button.

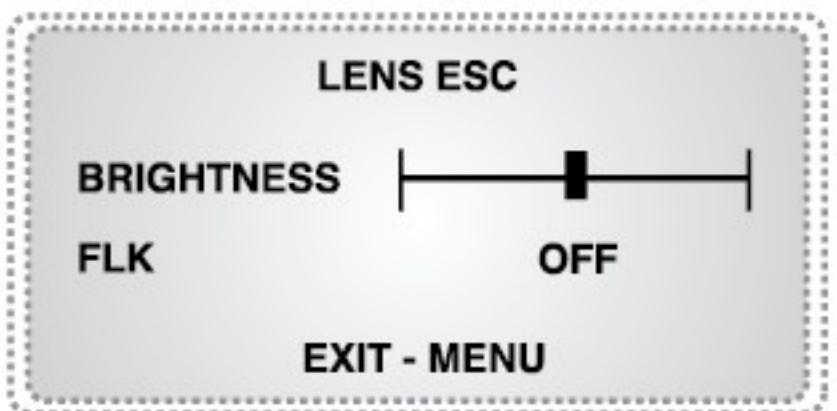
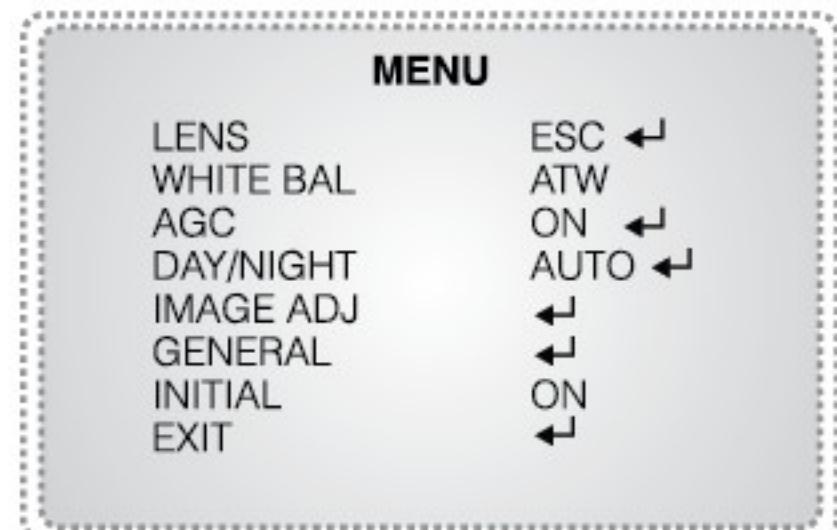
**Select ESC and Press MENU button to display LENS ESC.**

### 1. BRIGHTNESS

- Select BRIGHTNESS using the UP or DOWN button. You can adjust between 0 ~ 20 using the LEFT or RIGHT button.

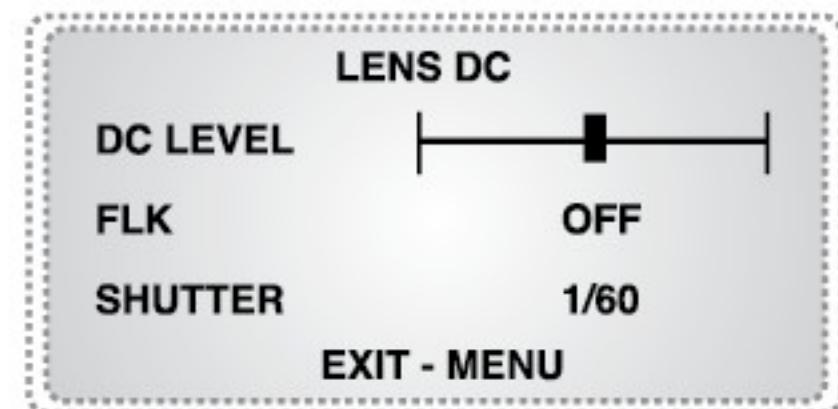
### 2. FLK (FLICKERLESS)

- Select FLK using the UP or DOWN button. You can select between ON / OFF using the LEFT or RIGHT button.
- Hint: Press Menu to go back to Main Menu.



**LENS DC**

**Select DC and Press the MENU button to have  
LENS DC activated .**

**1. DC LEVEL(Adjusts brightness of the image.)**

- Select DC LEVEL using the UP or DOWN button. You can adjust between 0 ~ 20 level using the LEFT or RIGHT button.

**2. FLK (FLICKERLESS)**

- Select FLK using the UP or DOWN button. You can select between ON / OFF using the LEFT or RIGHT button.  
> OFF : You will be allowed to adjust the shutter speed.

**3. SHUTTER (Adjusts the shutter speed of the lens.)**

- Select SHUTTER using the UP or DOWN button. You can adjust from 1/60(1/50), 1/120(1/100), 1/250, 1/500, 1/700, 1/1K, 1/1600, 1/2500, 1/5K, 1/7K, 1/10K, 1/30K, 1/60K, 1/120K(sec) level using the LEFT or RIGHT button.

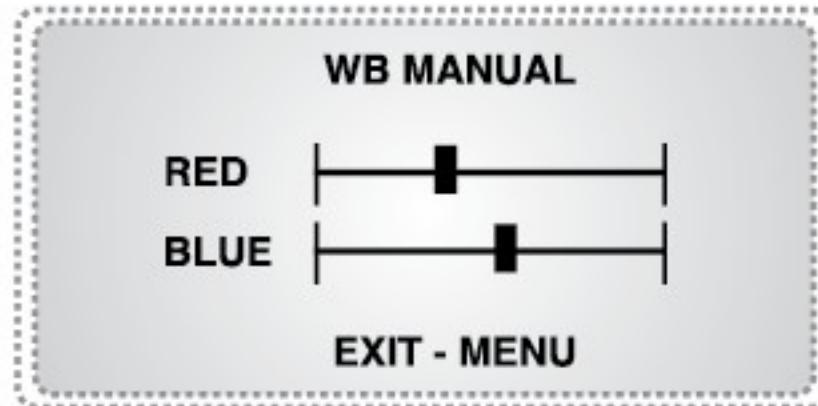
## WHITE BAL (White Balance)

**Select WHITE BAL using the UP or DOWN button. You can select from ATW, MANUAL, PUSH using the LEFT or RIGHT button.**

**1. ATW** : Color temperature is automatically adjusted to 2,000°K ~ 10,000°K

**2. MANUAL** : To set a certain color temperature with RED CONT, BLUE CONT

- Select MANUAL using the UP or DOWN button and press the MENU button to activate WB MANUAL option.



1. RED : To adjust density of RED (0~160)

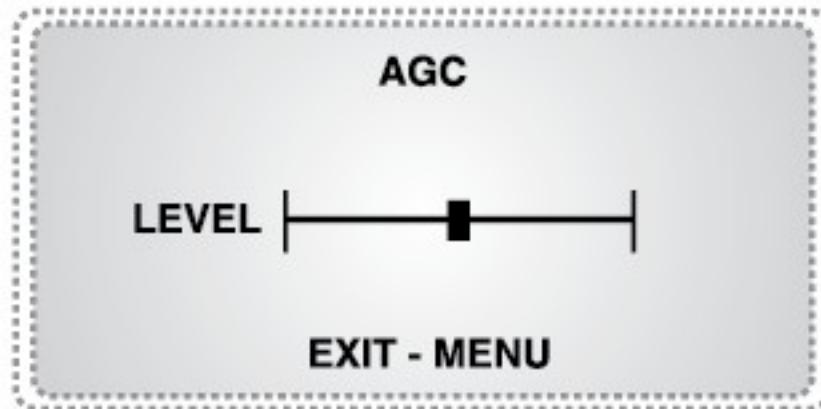
2. BLUE : To adjust density of BLUE ( 0~ 160)

**3. PUSH** : If the set color temperature does not meet your environment, press the MENU button to adjust the color temperature to desired setting.

## AGC (Automatic Gain Control)

Select AGC using the UP or DOWN button. You can select between OFF, ON using the LEFT or RIGHT button.

1. **ON** : Select ON using the LEFT or RIGHT button and press the MENU button to activate AGC option.



1. LEVEL : You can adjust between 0 ~ 20 using the LEFT or RIGHT button.
2. **OFF** : Disable the AGC

### DAY / NIGHT

**Select DAY / NIGHT using the UP or DOWN button.**  
**You can select between AUTO, COLOR, B/W, EXT using the LEFT or RIGHT button.**

- 1. COLOR** : for color mode only (DAY mode)
- 2. B/W** : for BLACK and WHITE mode only (NIGHT mode)
  - Select B/W using the LEFT or RIGHT button and press the MENU button to activate COLOR BURST option.
- 3. EXT** : To switch between COLOR or BLACK and WHITE depending on external signals.
- 4. AUTO** : To switch between COLOR or BLACK and WHITE automatically upon the illumination.
  - Select AUTO using the LEFT or RIGHT button and press MENU button to activate CHANGE DELAY TIME option.



**NOTE** In Auto mode D&N camera using external IR may cause D&N filter to flicker.

### COLOR BURST

BURST

ON

EXIT - MENU

It is possible to select ON/OFF using the LEFT or RIGHT button.

### CHANGE DELAY TIME

DELAY TIME

3

EXIT\_MENU

You can adjust the DELAY TIME from 1 ~ 15 using the LEFT or RIGHT button.



## IMAGE ADJ (Image Adjust)

Select IMAGE ADJ using the UP or DOWN button and press the MENU button to activate the IMAGE ADJ mode.

IMAGE ADJ	
SBLC	OFF
DNR	LOW
SHARPNESS	↔
MIRROR	OFF
MOTION	↔
PRIVACY	↔
COLOR GAIN	↔
INITIAL	ON
RETURN	↔

**1. SBLC (Super Back Light Compensation)** : To lighten a darker part of the image

- Select SBLC using the UP or DOWN button. You can select between OFF, LOW, MIDDLE, HIGH using the LEFT or RIGHT button.

**2. DNR (Digital Noise Reduction)** : To reduce the image noise especially during the low ambient lighting conditions.

- Select DNR using the UP or DOWN button. You can adjust between OFF, LOW, MIDDLE, HIGH using the LEFT or RIGHT button.

### 3. SHARPNESS : To adjust SHARPNESS of the image.

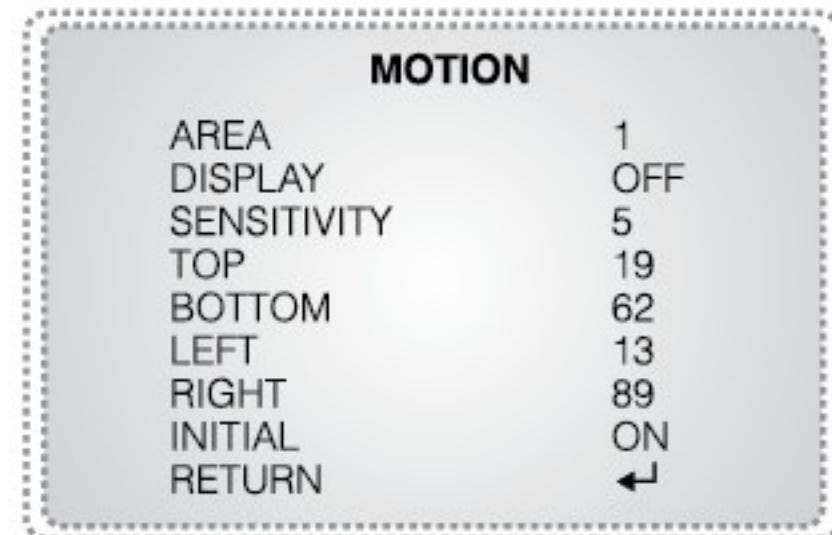
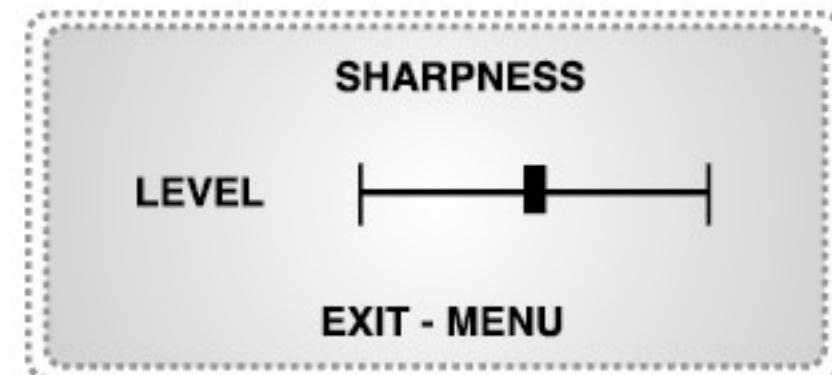
- Select SHARPNESS using the UP or DOWN button.
- Select  and press the MENU button to activate SHARPNESS option.
- You can adjust the sharpness from 0~20 using the LEFT or RIGHT button.

### 4. MIRROR

- Select MIRROR using the UP or DOWN button.  
You can select from ON/OFF using the LEFT or RIGHT button.  
(1) ON : Horizontal image flip.  
(2) OFF : default

### 5. MOTION (Motion Detect)

- Select MOTION using the UP or DOWN button and press MENU button to activate MOTION DETECT option.

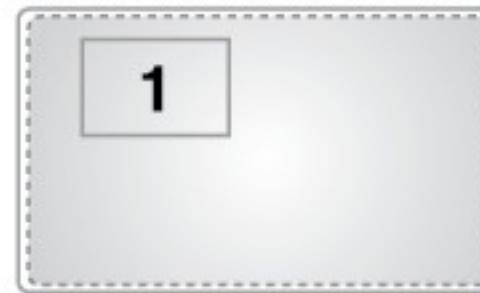


**1) AREA** : To specify MOTION DETECTION area

- Select AREA using the UP or DOWN button. You can select from area 1~4 position using the LEFT or RIGHT button.

**2) DISPLAY** : To display MOTION DETECTED area on the video

- Select DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.
  - (1) ON : display the MOTION DETECTED area on the screen
  - (2) OFF : disable

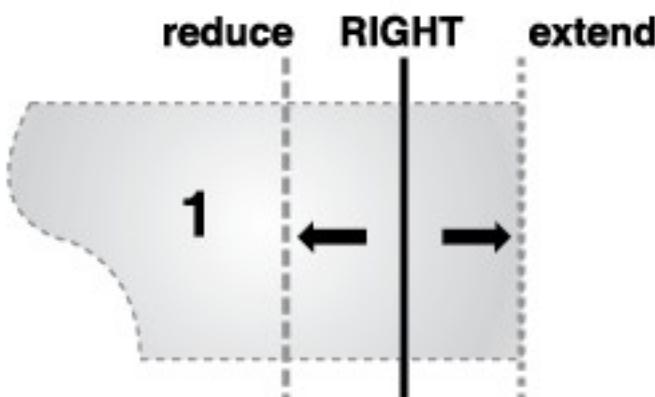
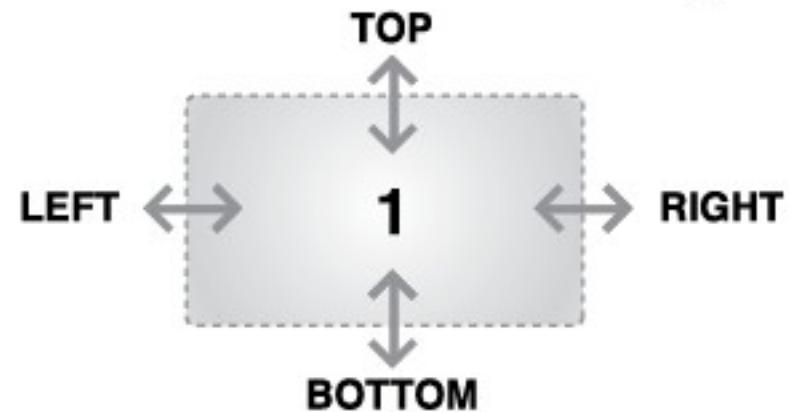
**3) SENSITIVITY** : To setup the motion sensitivity

- Select SENSITIVITY using the UP or DOWN button. You can adjust the motion sensitivity of a movement from 1~24 using the LEFT or RIGHT button.
  - (1) 1 : most sensitive (highest)
  - (2) 24 : least sensitive (lowest)

### 4) TOP / BOTTOM / LEFT / RIGHT : Users can specify MOTION DETECTED area.

- Select TOP, BOTTOM, LEFT, or RIGHT using the UP or DOWN button. You can adjust the AREA using the LEFT or RIGHT button.

- (1) TOP : extend or reduce the upper area of the MOTION DETECTED area (8~126)
- (2) BOTTOM : extend or reduce the bottom area of the MOTION DETECTED area (8~126)
- (3) LEFT : extend or reduce the left side of the MOTION DETECTED area (4~191)
- (4) RIGHT : extend or reduce the right side of the MOTION DETECTED area (4~191)



### 5) INITIAL : To reset the MOTION DETECT mode.

- Select INITIAL using the UP or DOWN button. You can reset the MOTION DETECT mode using the MENU button.

### 6) RETURN : To return to IMAGE ADJ MENU

- Select RETURN using the UP or DOWN button. You can return to IMAGE ADJ MENU using the MENU button.

## 6. PRIVACY

- Select PRIVACY using the UP or DOWN button and press the MENU button to active the PRIVACY option.

### 1) AREA : To specify the PRIVACY area

- Select AREA using the UP or DOWN button. You can select area from 1~4 position using the LEFT or RIGHT button.

### 2) DISPLAY : To display the Privacy Zone area

- Select DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.

(1) ON : display the Privacy Zone area  
 (2) OFF : disable

### 3) COLOR : To change color of privacy zone

- Select COLOR using the UP or DOWN button. You can adjust from WHITE, YELLOW, GREEN, BLUE, RED, BLACK, or GRAY using the LEFT or RIGHT button.

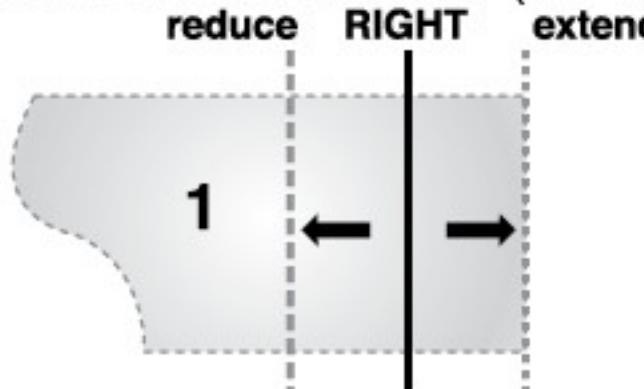
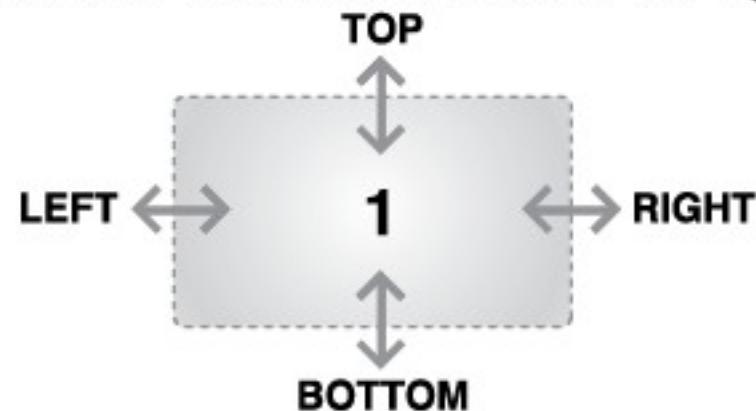
PRIVACY	
AREA	1
DISPLAY	OFF
COLOR	WHITE
TOP	15
BOTTOM	31
LEFT	44
RIGHT	104
INITIAL	ON
RETURN	←



### 4) TOP / BOTTOM / LEFT / RIGHT : Users can specify PRIVACY ZONE area

- Select TOP, BOTTOM, LEFT, or RIGHT using the UP or DOWN button. You can adjust the privacy zone using the LEFT or RIGHT button.

- (1) TOP : extend or reduce the upper area of the MOTION DETECTED area (4~63)
- (2) BOTTOM : extend or reduce the bottom area of the MOTION DETECTED area (5~64)
- (3) LEFT : extend or reduce the left side of the MOTION DETECTED area (18~205)
- (4) RIGHT : extend or reduce the right side of the MOTION DETECTED area (19~206)



### 5) INITIAL : To reset to factory default only on the PRIVACY mode.

- Select INITIAL using the UP or DOWN button. You can reset the PRIVACY mode using the MENU button.

### 6) RETURN : To return to IMAGE ADJ MENU

- Select RETURN using the UP or DOWN button. You can return to IMAGE ADJ MENU using the MENU button.

## 7. COLOR GAIN

- Select COLOR GAIN using the UP or DOWN button and press MENU button to activate COLOR MODE option.

## 8. INITIAL :

To reset to factory default only on the IMAGE ADJ mode.

- Select INITIAL using the UP or DOWN button and reset the IMAGE ADJ mode using the MENU button.

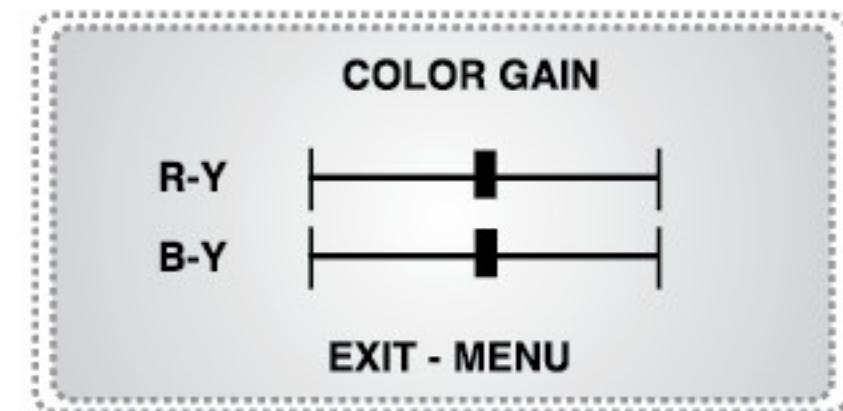
## 9. RETURN :

To return to MAIN MENU

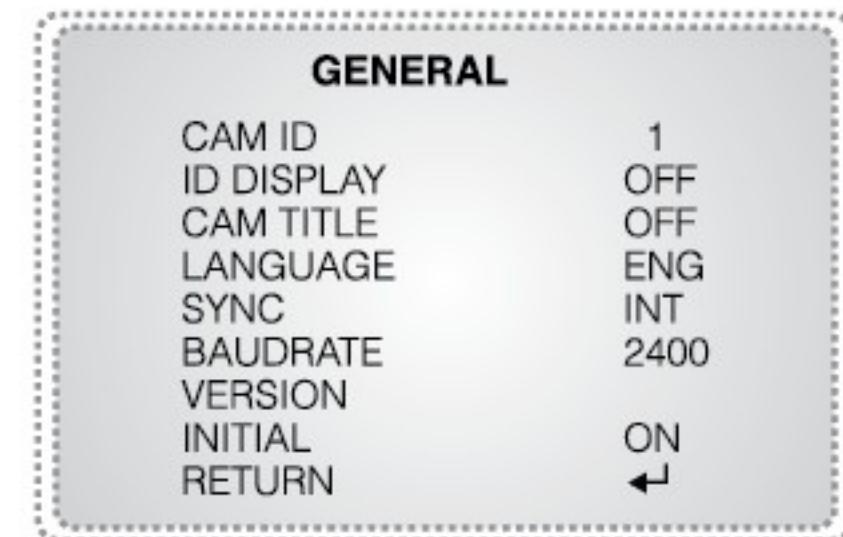
- Select RETURN using the UP or DOWN button and return to MENU using the MENU button.

## GENERAL

Select GENERAL using the UP or DOWN button and press the MENU button to activate the GENERAL mode.



1. R-Y : To adjust density of RED (0~20)
2. B-Y : To adjust density of BLUE (0~20)



## 1. CAM ID : CAMERA ID ( RS-485 Communication ID)

- Select CAM ID using the UP or DOWN button. You can select between the range 000~255 using the LEFT or RIGHT button.

**NOTICE : CAM ID does not reset after user setting.**

## 2. ID DISPLAY (CAMERA ID DISPLAY)

- Select ID DISPLAY using the UP or DOWN button. You can select between ON/OFF using the LEFT or RIGHT button.

(1) ON : To display camera ID on the screen

(2) OFF : disable

## 3. CAM TITLE

- Select CAM TITLE using the UP or DOWN button.  
You can adjust ON/OFF using the LEFT or RIGHT button.

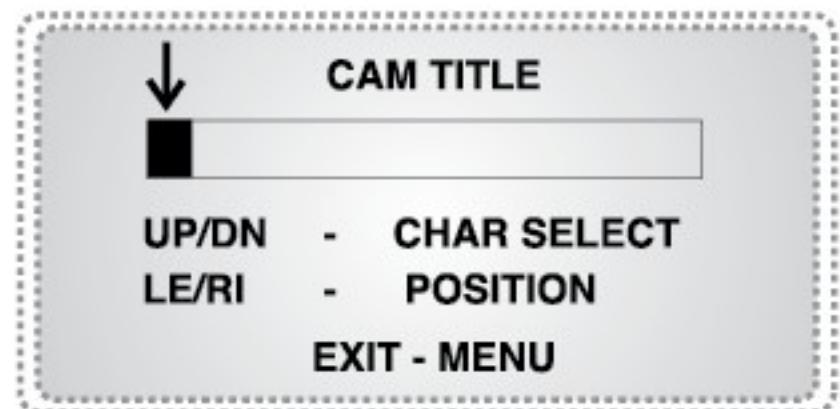
(1) ON : To display the camera title on the screen

(2) OFF : disable

- Select ON and Press MENU button to display CAM TITLE.

(1) UP/DN : To select character using the UP or DOWN button (0~9,A~Z)

(2) LE/RI : To select position using the LEFT or RIGHT button.



**4. LANGUAGE** - Select LANGUAGE using the UP or DOWN button. You can change between ENG or CHN using the LEFT or RIGHT button.

**5. SYNC** - Internal Synchronization Type : INT

**6. BAUDRATE** - Select BAUDRATE using the UP or DOWN button. You can change from 2400bps, 4800bps 9600bps, 57600bps using the LEFT or RIGHT button.

## **7. VERSION**

**8. INITIAL** : To reset to factory default only on the GENERAL mode.

- Select INITIAL using the UP or DOWN button. You can reset to factory default for GENERAL mode using the MENU button.

**9. RETURN** : To return to MENU

- Select RETURN using the UP or DOWN button. You can return to the MENU using the MENU button.

### **INITIAL** : To reset to factory default.

- Select INITIAL using the UP or DOWN button and reset to factory default using the MENU button.

### **EXIT** : To exit out from the OSD setup menu.

- Select EXIT using the UP or DOWN button and close the OSD setup menu by pressing MENU button.

MODEL	HIGH RESOLUTION		NORMAL RESOLUTION			
<b>Signal System</b>	NTSC	PAL	NTSC	PAL		
<b>Image Sensor</b>	1/3 interline CCD					
<b>Effective Pixels</b>	768(H)x494(V)	752(H)x582(V)	510(H)x492(V)	500(H)x582(V)		
<b>Video Output</b>	Composite : 1.0V p-p, 75Ω					
<b>Sync. System</b>	Internal Sync					
<b>Luminance S/N Ratio</b>	50dB Min.(AGC off)					
<b>Horizontal Resolution</b>	600 TVLines (BW 650 TVLines)		400 TVLines (BW 420 TVLines)			
<b>Sensitivity</b>	0.1 Lux (color) / 0.01 Lux (B/W)		0.05 Lux (color) / 0.005 Lux (B/W)			
<b>ESC</b>	(NTSC-1/ 60 ~ 1/ 120,000), (PAL - 1/ 50 ~1/ 120,000)					
<b>Manual Shutter</b>	1/ 60(1/50), 1/120(1/100), 1/ 250, 1/ 500, 1/ 700, 1/ 1K, 1/ 1.6K, 1/ 2.5K, 1/ 5K, 1/ 7K, 1/ 10K, 1/ 30K, 1/ 60K, 1/ 120K					
<b>DNR</b>	OFF, LOW, MIDDLE, HIGH					
<b>White Balance</b>	ATW, MANUAL , PUSH					
<b>SBLC</b>	OFF, LOW, MIDDLE, HIGH					

<b>AGC</b>	ON, OFF
<b>Day / Night</b>	AUTO, COLOR, B/W, EXT
<b>Burst</b>	ON, OFF
<b>Motion Detection</b>	ON, OFF (4 Programmable Zone)
<b>Privacy</b>	ON, OFF (4 Programmable Zone)
<b>Mirror</b>	ON(HORIZONTAL), OFF
<b>Sharpness</b>	1 ~ 20
<b>Communication</b>	RS-485 (Pelco-D, CNB)
<b>OSD Language</b>	English / Chinese
<b>Applicable Lens</b>	DC Iris / Manual Lens
<b>Supply Voltage</b>	12V DC (+10% -20%)
<b>Power Consumption</b>	180mA / 2.2W (Max)
<b>Operating Temperature/ Humidity</b>	-10°C to +50°C / 30% to 80% RH
<b>Storage Temperature/ Humidity</b>	-20°C to +60°C / 20% to 90% RH

## COLOR DOME CAMERA

### 24VAC / 12VDC Input Model

MODEL	HIGH RESOLUTION		NORMAL RESOLUTION			
Signal System	NTSC	PAL	NTSC	PAL		
Image Sensor	1/3 interline CCD					
Effective Pixels	768(H)x494(V)	752(H)x582(V)	510(H)x492(V)	500(H)x582(V)		
Video Output	Composite : 1.0V p-p, 75Ω					
Sync. System	Internal Sync					
Luminance S/N Ratio	50dB Min.(AGC off)					
Horizontal Resolution	600 TVLines (BW 650 TVLines)		400 TVLines (BW 420 TVLines)			
Sensitivity	0.1 Lux (color) / 0.01 Lux (B/W)		0.05 Lux (color) / 0.005Lux (B/W)			
ESC	(NTSC-1/ 60 ~ 1/ 120,000), (PAL - 1/ 50 ~1/ 120,000)					
Manual Shutter	1/ 60(1/50), 1/120(1/100), 1/ 250, 1/ 500, 1/ 700, 1/ 1K, 1/ 1.6K, 1/ 2.5K, 1/ 5K, 1/ 7K, 1/ 10K, 1/ 30K, 1/ 60K, 1/ 120K					
DNR	OFF, LOW, MIDDLE, HIGH					
White Balance	ATW, MANUAL , PUSH					
SBLC	OFF, LOW, MIDDLE, HIGH					



## COLOR DOME CAMERA

**24VAC / 12VDC**  
**Input Model**

<b>AGC</b>	<b>ON, OFF</b>
<b>Day / Night</b>	<b>AUTO, COLOR, B/W, EXT</b>
<b>Burst</b>	<b>ON, OFF</b>
<b>Motion Detection</b>	<b>ON, OFF (4 Programmable Zone)</b>
<b>Privacy</b>	<b>ON, OFF (4 Programmable Zone)</b>
<b>Mirror</b>	<b>ON(HORIZONTAL), OFF</b>
<b>Sharpness</b>	<b>1 ~ 20</b>
<b>Communication</b>	<b>RS-485 (Pelco-D, CNB)</b>
<b>OSD Language</b>	<b>English / Chinese</b>
<b>Applicable Lens</b>	<b>DC Iris / Manual Lens</b>
<b>Supply Voltage</b>	<b>24V AC (20V~28V), 12V DC(11V~15V)</b>
<b>Power Consumption</b>	<b>0.3A / 3.6W (Max)</b>
<b>Operating Temperature/ Humidity</b>	<b>-10°C to +50°C / 30% to 80% RH</b>
<b>Storage Temperature/ Humidity</b>	<b>-20°C to +60°C / 20% to 90% RH</b>

## ◎11. TROUBLESHOOTING

If you have trouble operating your camera, refer to the following guidelines. If the guidelines do not help you to solve the problem, contact an authorized technician.

### **Nothing appears on the screen**

- ▶ Check that the power cord and line connection between the camera and monitor are fixed properly.
- ▶ Check that you have properly connected VIDEO cable to the camera VIDEO output jack.

### **The image on the screen is dim**

- ▶ Is lens stained with dirt? Clean your lens with soft, clean cloth.
- ▶ Set the monitor to proper condition.
- ▶ If the camera is exposed to too strong light, change the camera position.
- ▶ Adjust the lens' focus properly.

### **The image on the screen is dark**

- ▶ Adjust the contrast feature of the monitor.
- ▶ If you have an intermediate device, set the  $75\Omega$  / Hi-z properly.
- ▶ Adjust DC Level, VR level properly.

### **The camera is not working properly, and the surface of the camera is hot.**

- ▶ Check that you have properly connected the camera to an appropriate power source.

### **The image on the screen flickers.**

- ▶ Check whether the camera is exposed to strong sunlight or fluorescent lighting.



COLOR DOME CAMERA

● MEMO

MEMO



# COLOR DOME CAMERA

## DIGITAL DOME CAMERA SERIES

P/N : 3810-0185F (Ver.0909E)

Design and specifications are subject to change without notice.

